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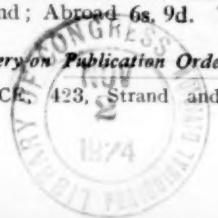

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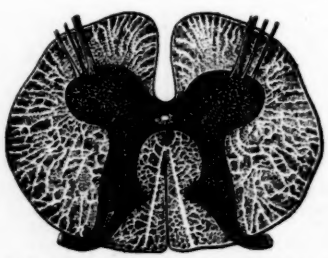

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MR. PRESIDENT AND FELLOWS OF THE COLLEGE,—More than two centuries and a half have passed since the most illustrious of our Fellows founded the Festival which we celebrate to-day, and directed that an oration should be delivered by one of our number. Upon the long list of Harveian Orators are many names familiar wherever medicine is studied, and amongst them those of my six most recent predecessors in my chair. I esteem it a great honour that you, Sir, should have thought me worthy to stand here to-day, and to deliver Harvey's message.

It will be my endeavour to follow the injunctions which he laid down; to commemorate the great men of the past, benefactors not only to this College but to the human race; to exhort our brethren to work together in peace and amity, and to urge them to pursue the study of our science, by methods of which he himself made such good use.

Ever since this College was founded its Fellows and Members have, generation by generation, brought their several stones to the building of the house of medicine. Upon its Roll are names of "men in their generation famous, and in ours never to be forgotten," men of genius whose fame as discoverers and as pioneers, in medicine and in other branches of natural science, is world-wide and will never die; and of some highly distinguished in other walks of life, great scholars, such as Linacre and Caius, poets and philosophers. Upon it, too, are names of generous benefactors to scientific education, such as John Radcliffe and Matthew Lee, and of commanding personalities, patrons of science, art or letters, such as Richard Mead, the Mecænas of his day.

But these great ones form only a small minority, and most of those upon our lists were men of lesser stature; but as teachers who handed down to their pupils the treasures of their observation and experience, busy practitioners, keen observers, or men of varied culture few of them can have failed to add something to the sum of human knowledge. Yet many of their names recall no memory, or have attained to that most arid form of immortality, to serve as labels for malady or symptom. But, collectively, the work which they did counts for much, and those of us who are conscious that we shall leave no "footprints on the sands of time" may take courage from the thought that we too are helping to do the spade-work for some future Harvey.

On this occasion it is only fitting that special mention should be made of one born just three hundred years ago, and who, although, owing to a technical obstacle now long obsolete, he was not a Fellow of this College, held its licence; and we may associate in our celebration the names of William Harvey, the physician to King Charles and the immortal founder of modern physiology, and Thomas Sydenham, the soldier of the Parliament, who did for clinical medicine what Harvey did for physiology, and brought it back from the realm of fancy to the bedside study of signs and symptoms. These two men, Harvey and Sydenham, each pre-eminent in his own line, were wholly unlike in their outlook, and although contemporaries are not known ever to have met.

Sydenham, at the mention of whose name the illustrious Boerhaave used to raise his hat, has been called the English Hippocrates, and by this College, on his monument, "medicus in omne ævum nobilis." Certainly no man ever had, in greater degree, the gift of conveying, in a few sentences, a vivid picture of a morbid state, and even though we may rejoice that those dear to us are no longer treated in accord with his prescription, we realise that he opened a new era of therapeutics. To him must be assigned a high place among our benefactors.

The history of medicine traces back to the birth of our race, and even beyond, for we know that the lower animals have therapeutic instincts. From the outset treatment has been shaped by prevalent notions of the nature of disease, and maladies provoked by the enmity of a primitive deity, or by the malicious magic of a fellow creature, are only likely to be cured by magical methods. In Osler's words: "To a very definite but entirely erroneous pathology, was added a treatment rational in every respect, had the pathology been correct." The primitive medicine and the art of the medicine-man survive, to this day among the savage races of the earth, and he would be a bold man who should deny their survival amongst those races which regard themselves as the highest products of civilisation. Are any of us wholly free from such ideas?

For ages medicine has striven to shake off her bonds, and to attain to the status of a science. The first act of the drama was staged in ancient Greece. We know well that the true spirit of inquiry, the desire for knowledge for its own sake, was innate in that wonderful race, of which the intellectual life centred around the city in which the people "spent their time in nothing else, but either to tell or to hear some new thing." The legacy of Greece embodies not only the Parthenon and the Erechtheum, the sculptures of Pheidias and Praxiteles, the plays of Æschylus and Euripides, the thoughts of Socrates and the works of Plato. Greece gave us also Aristotle and Hippocrates. Only the true spirit of science could have prompted the minute and accurate research into the structure and functions of living things which are embodied in the writings of Aristotle, or the pictures of disease and its symptoms to be found in the clinical records of Hippocrates. Do we not still speak of the "facies Hippocratica" and of Hippocratic succussion?

We cannot doubt that there were forerunners of Aristotle, nor that much of the knowledge embodied in his books had been collected by lesser men. Nor can we doubt that there were scientific physicians before Hippocrates, men of the schools of Cnidus and Cos, some of whose writings are included in the Hippocratic corpus. Indeed, Aristotle, whose lifetime overlapped that of Hippocrates, bears witness to this, when he speaks of physicians as men who usually base their medical theories upon principles derived from physics. We must rather suppose that, like other men of genius, Hippocrates illuminated and crystallised the floating knowledge in the atmosphere of the Asklepieion. But Hippocrates was something more than a man of science, for when we read what he has written we realise that the most cherished traditions of our profession, the rules of its conduct, were inherent in the Father of medicine, the author of the Hippocratic oath.

When, at a later period, the centre of Greek medicine shifted to Alexandria, Erasistratus and Herophilus had opportunities for the practical study of human anatomy such as none had before them; and in the second century of our era, the Greek tradition culminated in the life and writings of Claudius Galen, a great physician, a true enquirer of nature, author of many treatises, imbued with the spirit of Hippocrates, but not so great as he. It was the strange fate of this man to be set up as an oracle, to be regarded for more than a thousand years as infallible

and his statements as admitting of no appeal. Then after Galen the curtain falls, to be rung up again only in the sixteenth century of our era.

During that long inter-act the races which had overthrown and over-run the empire of Rome were being educated *de novo*, to appreciate the culture which they had destroyed. Meanwhile, the keeping of the works of the ancient physicians passed to the Arab races, and for centuries were only known in Syriac or Arabic translations, or in retranslations from those tongues into Latin. Then in the end science stirred in her sleep in the thirteenth, and finally reawakened in the sixteenth century. There was indeed much leeway to be made up. Even as late as in the year 1559 Dr. John Geynes was cited before this College because he impugned the infallibility of Galen and was obliged to sign a solemn recantation of his error:—"Ego Johannes Geynes fateor Galenum, in iis quæ proposui contra eum, non errasse." Surely, in the Elysian fields, the shade of Galen chuckled!

Great as were the achievements of the fathers of medicine, they began to construct their edifice with the attics. Their anatomy was almost wholly that of the lower animals, and the physiology of Galen seems to us grotesque. The sciences upon which anatomy and physiology rest were hardly yet born. If medicine were to be established upon a scientific basis the structure needed to be firm from the ground upwards, and from the sixteenth century onwards, the foundation sciences, and those which form the lower stories, have been cultivated and advanced, largely by medical men who saw them to be essential to the progress of their own science and art.

So medicine, oldest of applied sciences, older indeed than the sciences applied, has through the ages furthered the growth of natural knowledge. How profound her influence has been, and how it has been exerted, it is my present aim to show.

Research and education are closely linked, but whereas from their earliest days there have existed, in the universities of Europe, the three professional faculties of Divinity, Law, and Medicine, that of Natural Science is of quite recent development. For the student with a scientific bent two paths were open; he might either attach himself to the Faculty of Medicine, or might approach his chosen studies by way of mathematics.

Even down to the seventeenth century, or later, the university course in medicine was almost wholly theoretical. The Professor expounded to his pupils the writings of Hippocrates and Galen, together with those of some of the great Arabians, such as Avicenna and Rhazes. Such were the duties assigned by Linacre to his lecturers at Oxford and Cambridge, and those of the Regius Professors at those ancient seats of learning. Thomas Molyneux (1661–1733) a young graduate of Dublin, where he was afterwards Professor of Medicine, visited Oxford in 1683, and heard the Regius Professor, Dr. Luff, "read on the first aphorism of Hippocrates in the Physic School; where giving an account of the shortness of man's life since, and the length of it before the flood, he made up of Mr. Burnett's fancy, not at all altered but in the word." No wonder that Molyneux was not diverted from his purpose to continue his studies at Leyden, where clinical medicine was being taught in a university clinic. Elsewhere clinical knowledge was acquired by attendance upon the practice of a physician or surgeon, a system of apprenticeship which has this to its credit that out of it has grown the English system of bedside instruction to small groups of students. The first attempt to start clinical teaching within the university was made in Padua in the late sixteenth century, but the first organised clinic was that in Leyden, started in about the year 1630.

The study of science for its own sake, apart from any professional applications, began again in the sixteenth century, and was active in the century which followed. In this country Oxford took a large part in the renascence of pure science. There Robert Boyle, the "father of chemistry," set up his private laboratory in 1654; and around John Wilkins, Warden of Wadham, the college of Mayow and Sydenham, and one to which science and medicine owe much, there gathered a group of men eager for the advancement of natural knowledge, who, with the members of the "Invisible College" in London, formed the nucleus of the future Royal Society. In the same century chairs of astronomy, natural philosophy, anatomy and botany were founded in Oxford, and the Botanic Garden was established. In 1657, Thomas Millington (1628–1704) a President of this College, was made Sedleian Professor of Natural Philosophy, and the first Savilian Professor of Geometry and Astronomy, John Bainbridge (1582–1643) was also one of our Fellows.

How large a part members of our profession played in this reawakening of science is shown by the large proportion of medical men among the original Fellows of the Royal Society. Of the total of 115, which included Peers, Clerics and distinguished people such as John Evelyn and Samuel Pepys, only a small proportion were men of science in any strict sense, and of these no less than 25 were Doctors of Medicine, whilst 21 were Fellows of this College.

In the reawakening of medical science Italy took the lead, and especially in the study of anatomy. Of her universities, Padua, under the enlightened rule of the Venetian Republic, became the chief centre of medical teaching in Europe, and thither repaired the pick of our English students to profit by teaching such as they could not obtain at home. Later, when the star of Padua paled for a time, Leyden took its place as the cynosure of students of medicine.

Of the professions open to him in former centuries that of medicine would obviously make most appeal to the youth of scientific bent, and as L. C. Miall puts it in his book on "The Early Naturalists":—

> "The medical school furnished the only regular training for the naturalist, whilst he found in the medical profession the likeliest means of earning his bread."

In his Rectorial Address to the University of Aberdeen, delivered in 1874, Huxley brought out the same point, with even wider application, when he said:—

> "Within my recollection, the only way in which a student could obtain anything like a training in physical science was by attending the lectures of professors of physical and natural science attached to the medical schools."

Still more striking is the following passage from the same address:—

> "In the days when all the innumerable applications of physical science to practical purposes were non-existent even in dreams; days which men living have heard their fathers speak of, what little physical science could be seen to bear directly upon human life lay within the province of medicine. Medicine was the foster-mother of chemistry, because it had to do with the preparation of drugs and the detection of poisons; of botany because it enabled the physician to recognise medicinal herbs; of comparative anatomy and physiology, because the man who studied human anatomy and physiology for purely practical purposes was led to extend his studies to the rest of the animal world."

Now that the practical applications of science are so far greater even than when these words were spoken, and a course of scientific training is necessary or desirable as a preparation for so many walks of life, there have sprung up schools of physical science of which the Royal School of Mines and the College of Chemistry, now fused into the Imperial College of Science, were the earliest to be established in this country. Our universities also teach science in all its branches, and grant degrees therein. In a word, science has been weaned from its foster-mother.

Seeing, then, that in the past medicine has supplied opportunities of education for students of natural

philosophy and natural history, and has, at the same time, supplied a stimulus to their researches, it need cause no surprise that our profession can claim, amongst its most honoured members, not a few whose work has inaugurated new epochs in widely diverse branches of natural knowledge.

At first sight it would appear that astronomy, to which the natural approach is through mathematics, is as remote from medicine as any science can be; but there was a time when the pseudo-science of astrology supplied a close tie between the study of the stars and that of disease. The mediæval physician was profoundly influenced by the horoscope of his patient, and studied the motions and conjunctions of the planets to obtain such help in diagnosis and prognosis, as is afforded nowadays by the blood-count or electro-cardiogram. He was expected to have some knowledge of astrology, and even in the sixteenth century there were amongst our Fellows such men as Thomas Twyne (1543–1613), who gained more fame as an astrologer than as a physician, and some note as a poet. True medical astronomers, on the other hand, have been few in number, but Nicolas Copernicus (1473–1543), who revolutionised man's ideas of the universe, was a physician, and amongst lesser lights, mention may be made of our Fellow John Bainbridge.

Another science which has little contact with medicine is geology, save in so far as the nature of soils has bearings upon public health; but medical men have played very important parts in its advancement. Thus, Nicholas Steensen, commonly called Steno (1638–1686), who discovered the parotid duct which bears his name, may be described as one of the founders of geology and mineralogy. Most of his active life was spent in Florence, where he held the post of physician to two successive Grand Dukes. Of him von Zittel wrote, in his History of Geology, that he was the first who sought to solve geological problems by inductive reasoning. He threw much light upon the formation and structure of crystals, and as Leonardo da Vinci had done a century and a half earlier, he maintained that fossils are the actual remains of animals and plants of former epochs. He ended his life as a Catholic bishop, and his ascetic habits undermined his health. This brilliant Dane is entitled to rank among the great ones of science, as anatomist, geologist, mineralogist, and physician, but his researches, so far in advance of his time, only received their due recognition after much of his work had been done over again by later investigators.

John Woodward (1665–1728), Professor of Medicine at Gresham College, and Fellow of this College, also holds a distinguished place in the annals of geology. By his observations he acquired a most extensive knowledge of the structure of the earth's crust, and had learnt much as to the superposition of the various strata, but he propounded a fantastic hypothesis that the whole globe had been taken to pieces at Noah's flood, and that from the resulting "promiscuous mass" the various strata had been deposited in quick succession. He bequeathed his collections to the University of Cambridge, where they form the nucleus of the museum which bears his name. Woodward was less eminent as a physician than as a geologist, and was evidently a quarrelsome fellow, for he forfeited his fellowship of the Royal Society because he insulted Sir Hans Sloane, to whom he refused to apologise; and a quarrel with Mead, over the treatment of small-pox, led to a passage of arms, in which the sword of Mead but the tongue of Woodward gained the mastery. "Take your life," said Mead; "anything but your physic," was the reply. The celebrated James Hutton (1726–1797), also, who propounded the rival, and sounder theory that the moulding of the crust of the earth has been effected gradually, by processes such as are now at work, was a Doctor of Medicine of Leyden, but soon abandoned the idea of medical practice.

In more recent times the presidential chair of the Geological Society has been occupied by William Babington (1756–1833), physician to Guy's Hospital, and by John Whittaker Hulke (1830–1895), surgeon to the Middlesex Hospital, to whom that Society awarded the highest prize in its gift, the Wollaston medal, founded by our former Fellow, the distinguished chemist and mineralogist of that name.

Physics and chemistry are the fundamental sciences upon which physiology and medicine rest, and throughout their history have been closely associated with medicine. Galileo Galilei (1564–1642), equally pre-eminent as astronomer and physicist, was a student of medicine when he watched the swing of the lamp in Pisa Cathedral, and so discovered the law of the pendulum. It was by his pulse that he timed the swing, and the first use which he made of his discovery was to construct an instrument to measure the frequency of its beats. The other outstanding physicist of the sixteenth century was a Fellow, and sometime President of this College, William Gilbert (1540–1603), founder of the science of magnetism, who recognised the earth's magnetic properties. Of him Dryden wrote:

> "Gilbert shall live till loadstones cease to draw,
> Or British fleets the boundless ocean awe."

This College can also claim amongst its Fellows one of the most brilliant men of science whom our country has produced, Thomas Young (1773–1829), whose discoveries in optics, and especially that of the interference of light, went far to establish the undulatory theory. He was the first to detect astigmatism, and threw much light upon the mechanism of the eye and on colour-vision. He was a great linguist also, and by his work on the Rosetta stone aided materially the interpretation of the demotic text thereof. Yet he found time to hold the office of physician to St. George's Hospital, and to practise medicine.

Amongst other great medical physicists I may recall the name of Luigi Galvani (1737–1798), physician and anatomist, who was led to the discovery of current electricity by his investigations of the electric organs of certain fishes; William Charles Wells (1757–1817), who solved the problem of dew; Julius Mayer, physician of Heilbronn, to whom is due some of the credit of the determination of the mechanical equivalent of heat, and, in our own time, Hermann von Helmholz.

There was a time, towards the end of the seventeenth century, when a dominant position in medical thought was held by a group of so-called iatro-physicists, who, influenced by the work of Galileo and his followers, and by the views on physiological problems, of two great mathematicians, Descartes (1596–1650) and Borelli (1608–1679), endeavoured, but with far less competence, to extend them to all physiological processes by the supposed action of forces upon particles of various shapes and sizes. Like the iatro-chemists, whom they superseded, they went too far, had their day, and passed. In the true line of succession from Borelli, on the other hand, was James Jurin (1684–1750), a Fellow of this College and physician to Guy's Hospital. He was an eminent mathematician and physicist, whose aim it was to make physiology an exact science.

With chemistry the links are even closer. The alchemist, who sought to prepare the elixir of life, had kindred aims to those of the physician. Later, in the period of the iatro-chemists, followers of Paracelsus, van Helmont and Sylvius, medicine was regarded as a mere branch of chemistry, and physiology as a study of fermentations. Curiously like, and yet quite unlike the physiology of to-day. A more practical tie between chemistry and medicine was provided by the chemical side of pharmacy and the study of poisons.

It was not until the seventeenth century that chemistry began to be studied as a pure science, in the

days of Robert Boyle, upon whom, as an appropriate recognition, Oxford bestowed the degree of Doctor of Medicine, and others who, like him, were actuated by a desire to know the nature and composition of things. At Oxford, the second holder of the short-lived Ashmolean Professorship of Chemistry, Edward Hannes (d. 1710), was a physician; in the early years of the eighteenth century lectures on chemistry were given by John Freind (1675–1728), a Fellow of our College and Harveian Orator, and by several other medical graduates; and the first holder of the Aldrichian chair, founded in 1803, was John Kidd, afterwards Regius Professor of Medicine.

In the earlier days a knowledge of practical chemistry was only to be acquired by students in the shops of apothecaries, and as a scientific training this left much to be desired. It was Vauquelin (1763–1829) who first organised courses of instruction in his own laboratory in Paris, and this method was followed by Thenard (1777–1857) and Gay Lussac (1763–1829) and greatly extended by Liebig (1803–1873). Ernst von Meyer states that the laboratory of Thomas Thomson (1773–1852), a Doctor of Medicine of Edinburgh and Professor of Chemistry in Glasgow, was the first to provide practical teaching in Great Britain, and it was not until 1845 that the College of Chemistry was established in London, with A. W. Hofmann as its director.

The list of physician chemists is a long one, and only a few of the most eminent can be mentioned. First may be recalled John Mayow (1643–1675), one of the greatest of them all. Mayow stands high on the roll of physiologists, as well as of chemists. From the point which he reached only one step remained to the complete explanation of respiration and combustion, and but for his too early death, the discovery of oxygen would almost certainly have been antedated by a century, and phlogiston would never have been heard of. Although a Doctor of Civil Law, Mayow practised medicine at Bath. A contemporary of Mayow was our Fellow Thomas Willis (1621–1675), whose work upon the anatomy of the brain is commemorated by the circle of arteries which bears his name. But Willis was also no mean chemist, and to him we owe the discovery of glycosuria. Mention must be made of Friedrich Hofmann of Halle (1660–1742), a contemporary of Boerhaave, and of the illustrious Herman Boerhaave (1668–1738) himself, whose treatise on chemistry was long the best text-book of the subject. Yet eminent as Boerhaave was as a chemist, it was as a physician and Professor of Medicine that he was pre-eminent, and it was during his tenure of its chair of physic that Leyden, as a school of medicine, reached its zenith. Cullen (1710–1790), Joseph Black (1728–1799) the discoverer of latent heat, and Wöhler (1800–1882) who, by his synthesis of urea, bridged the imaginary gap between inorganic and organic compounds, were all members of our profession who made notable contributions to chemical knowledge. It was a Professor of Medicine of Halle, Georg Ernst Stahl (1660–1734), who propounded the strange theory of phlogiston, which, like the old man of the sea, clung around the neck of chemistry and obsessed chemists for more than a century. This hypothesis, which presented an inverted picture of the truth, like a glove turned inside out, was upheld by men of the highest ability, and by none more tenaciously than by such men as Priestley and Scheele, whose own researches were knocking away the props upon which it rested. The great Swedish man of science, Berzelius (1779–1848), the foremost chemist of his time, and the inventor of our system of chemical symbols and formulæ, was a Doctor, and for a time a Professor, of Medicine; and it was by his friend Alexander Marcet, a Fellow of this College, and one whose services to biochemistry are not sufficiently remembered, that Berzelius was led to illustrate his lectures by experiments.

Two more physician chemists may complete our series, William Hyde Wollaston (1766–1828), a Fellow of this College, a most eminent man of science, whose contributions extend over physiology and pathology, mineralogy, optics, botany, and above all chemistry, and William Prout (1785–1850). Wollaston discovered the malleability of platinum, a property of great value to chemists and physicists alike, detected cystin in urinary calculi, and invented the camera lucida. Prout was one of the founders of biochemistry, and discoverer of the hydrochloric acid in the gastric juice. His much discussed hypothesis, usually spoken of as "Prout's law," that the atomic weights of other elements are multiples of that of hydrogen, and that hydrogen is the basal substance from which all the other elements are formed, has long served as a potent stimulus to observation and research, and now, in a sense, is coming to its own.

In these later days the ties between medicine and chemistry are being knit more closely than ever before. Most drugs of recent introduction are, like aspirin, by-products of the gas-works or dye factory, or like salvarsan and its allies, synthetic products of the laboratory. But far more important to the progress of medical knowledge is the light which is being thrown, by the rapid advance of biochemistry, upon the problems of metabolism and chemical structure of the body.

The history of other sciences tells a like story. Almost all the early botanists were medical men, and the chief stimulus to the study of botany was the search for useful drugs. This is true even of classical times, the days of Theophrastus and of Dioscorides. The early scientists were, with few exceptions such as Archimedes, observers rather than experimenters, and the mere differentiation and naming of genera and species, a branch of science which dates back to the Garden of Eden, and of which that great naturalist, Linnæus, was a brilliant exponent, afforded an immense field of work. Of the "Materia Medica" of Dioscorides Charles Singer writes:—"Its history has shown it to be one of the most influential botanical treatises ever penned. It provided most of the little botanical knowledge which reached the middle ages. It furnished the chief stimulus to botanical research at the time of the renaissance." In the fifteenth and following centuries a long line of medical botanists carried on the tradition, including Brunfels (1484–1534), Fuchs (1501–1566), Bock (1498–1554), and Gesner (1516–1565) the most learned naturalist of his century, botanist, zoologist, artist and professor of Greek, who died of plague whilst faithfully carrying out his duty, as town physician at Zurich, during an epidemic of that malady.

But to quote Miall once more:—"It was generally believed that for every ill that flesh is heir to, Nature had designated some plant as the appropriate cure," and again "Some believed that Providence had caused particular plants to grow in those districts where the diseases which they cure are prevalent." Can it be denied that such tenets are held by millions at the present day?

The high distinction of having initiated the study of vegetable anatomy and physiology, those higher branches of botany, is shared by two men of the seventeenth century, both of whom were physicians. One of them, Nehemiah Grew (1641–1712), we may proudly claim as a Fellow of our College. He it was who first recognised the sexes of plants and the functions of the stamens, but he himself gives some of the credit for this to our former President, Thomas Millington. Of Grew, Hallam wrote that "no man, perhaps, who created a science has carried it farther," but he must share the renown with no less a colleague than Marcello Malpighi (1628–1694), in whose splendid record the study of plant anatomy takes but a minor place. A professor of medicine, zoologist and botanist, founder of the science of embryology, elucidator of the structure of the lung, spleen and kidney, to Malpighi must be assigned very high rank amongst those who have contributed to the advancement of natural knowledge

On the other side, the greatest of systematic botanists, and founder of our system of nomenclature

of plants and animals, Carl Linné, commonly called Linnæus (1707–1778) who has been said to have "found botany a chaos and left it a cosmos," was not only a Doctor of Medicine, but held the office of Physician to the Swedish Navy, and practised in Stockholm for a time.

The ties between medicine and zoology are less obvious, for the search for animal drugs can hardly have led anyone to the study of natural history. But the transition from human to comparative anatomy is easy, and there have been medical zoologists from early times. In the sixteenth century we find the names of Rondelet (1507–1566), Belon (1517–1564), Conrad Gesner once more, and of our own former President Edward Wotton (1492–1555), whose work, "De Differentiis Animalium," gained for him an European reputation, but is marked rather by erudition than by originality of outlook and observation. In the seventeeth century there lived and worked Malpighi, whose chief contribution to zoology was a very complete study of the anatomy of the silkworm, Swammerdam (1637–1680), the Dutch microscopist who first observed the red corpuscles of the blood, and two Fellows of this College, Martin Lister (1638–1712) a man with wide interests and a special bent for the study of marine and fresh-water molluscs, and Edward Tyson (1650–1708), the author of monographs upon the chimpanzee, porpoise, opossum and rattlesnake, and who first described the patterns upon the finger-tips.

In recent times, we may claim Richard Owen (1804–1892) who was credited with the power of reconstructing an extinct monster from a single bone; and also one whose eloquent words still ring in the ears of some of us, the greatest of medical zoologists, Thomas Henry Huxley (1825–1895).

In reality, botany and zoology are far more closely allied to medicine than our fathers knew. Since most maladies are due to invasion of the body by lowly organisms, some animal and some vegetable, we need to approach the study of disease from the standpoint of the invaders which are ever trying to gain a foothold, as well as from that of the tissues which resent the rôle of a culture-medium and offer all the resistance in their power. In that struggle, which is waged with varying fortunes, we physicians are the allies of our patients, whose own tissues play the chief part in the defence. In order that our aid should be as efficient as possible we need to know all that can be learned about the nature and habits of the invaders, and of the insects which are the other hosts of some of them; and the study of bacteria is a branch of botany, and that of protozoa of zoology.

At the renascence of the medical sciences it was in human anatomy that the first advances were made, and the new anatomy was based upon dissection of the human body. The pioneer of this advance was Andreas Vesalius (1514–1564). His work was carried on in Padua. Others had dissected the human body before him, in Alexandria and at a later time in Bologna, but the prevalent teaching of anatomy followed the text of Galen, and was based, almost wholly, upon dissections of monkeys and lower animals. From Vesalius dates the great period of the medical school of Padua, during which there taught there, after Vesalius, Fallopius (1523–1562), Fabricius of Aquapendente (1537–1619), Casserius (1561–1616), and Spigelius (1578–1625), men whose names are written large upon the organs and tissues of the body. To Padua also, despite the difficulties, discomforts and even dangers of travel in those times, came students from afar, and amongst them our own Thomas Linacre, John Caius and William Harvey. As Sir Clifford Allbutt justly said, in his notable Harveian Oration, delivered a quarter of a century ago:—"It was in Padua that medicine, long degraded and disguised, was now to prove her lineage as the mother of natural science, and the truth of the saying of Hippocrates, that to know the nature of man, one must know the nature of all things."

It is not necessary that I should dwell upon the share of medical men in the building up of modern physiology, for from Harvey onwards it has been almost entirely their work; but the day has passed in which physiology was regarded as the handmaid of medicine, and it has taken its proper place as a great independent science.

Morbid anatomy, as an adjunct to clinical medicine, dates back to the illustrious Morgagni (1682–1772), and so to Padua once more, and is intimately associated with the other great names of Albert von Haller (1708–1777) and Rudolph Virchow. Knowledge of the changes, both great and minute, wrought by disease in the organs and tissues is still as essential as ever in the training of the physician and surgeon, but morbid anatomy is no longer coextensive with pathology, and the pathology of to-day has entered upon entirely new fields. So, as we well know, modern pathology has rendered possible the destruction of the agents of disease, or of their insect hosts before they reach the body, the triumphant achievements of preventive medicine. Moreover, as the result of the study of immunity, the bacteriologist is teaching us how to apply Nature's own selective remedies in place of the cruder drugs of earlier days. At the same time, the pharmacologists are bringing to the test of scientific method the actions and uses of drugs which have long been used in an empirical way, and are able to explain the proved utility of some which owe their introduction into the pharmacopœia to superstition, or to some grotesque hypothesis.

So, from the foundations of chemistry, physics, and biology, through the lower stories of human anatomy and physiology, of pathology and pharmacology, we reach the attics once more, and come back to Hippocrates, to the bedside examination of the sick and injured. But, now that the foundations have been well and truly laid, the clinical medicine of to-day is able to advance on scientific lines, and the study of the abnormal can be based upon a knowledge of the normal.

All who have taken part in this work, all those heroes of science and medicine whose names have been mentioned, may rank as benefactors of this College, both those who were its Fellows and those who were not, and in commemorating them I may claim to have followed Harvey's first injunction.

It is natural, nay inevitable, that as medical science grows and advances, some of the workers in the field should elect to follow the path which leads through the laboratory, whereas to others the wards make a stronger appeal; and thus is taking place a differentiation of medical workers into distinct groups, and there is danger that the fission may go too far. The worker in the laboratory, wedded to his more exact methods, and distrustful of those with which the clinician is often compelled to be content, is apt to place his bedside colleague in a lower grade or caste than his own. He is apt to look too much at the disease and too little at the patient, and to forget how greatly the former is shaped by the reactions and idiosyncrasies of the latter.

We all know that a line of treatment resting upon a strictly rational basis may be useless or even harmful in an individual case. It would be nothing short of a calamity were all the best scientific workers who enter our profession to be diverted from its clinical side to laboratory investigation, for of no walk of life is it more true than of the practice of our art that "the multitude of the wise is the welfare of the world." From the ranks of the clinical workers have been drawn those who, in the past, have built up medical science. It was in the intervals of their clinical practice that such men as Harvey himself, William Gilbert, Nehemiah Grew, and Thomas Young carried out the researches which have made them for ever famous; and indeed, clinical medicine is itself essentially scientific.

But clinical medicine is an art as well as a science, and in the sick room many qualities are called for

which are not essential in the laboratory. A man who is deeply imbued with the spirit of science may prove a very poor practitioner, whereas another, rich in common sense, sound knowledge, experience, and human sympathy, but to whom abstract science makes little appeal, may make a very good one. Tact and equanimity, courage and restraint, patience with fads and sympathy with grief, diagnostic skill and manual dexterity are qualities called for in the daily work of the practitioner of medicine or surgery. The marvel is that, on the scientific side, he has accomplished so much, not that he has failed to accomplish more. It ill becomes his colleagues in the laboratory to think slightingly of him.

Medicine, indeed, embraces a number of constituent sciences, and for the attainment of her beneficent aims, all her branches need to work together in mutual respect, amity, and concord: to bear in mind Harvey's third injunction to that effect, and his reminder that: "Concordiâ res parvæ crescunt, discordiâ magnæ dilabuntur."

Not only are the diagnostic methods which we employ in accord with the demands of science, but also, by the bedside study of signs and symptoms, and the recognition of the morbid anatomical changes with which they are associated, as also by the observation of the effects of surgical removal or gunshot injury of parts, very notable contributions to physiology have been made.

Consider, for a moment, how our knowledge of the functions of the endocrine glands has been obtained. The acumen and care in observation of that splendid clinician Addison threw the first ray of light upon the subject, and removed the adrenal glands from the realm of mystery into that of observed fact. The gradual accumulation of facts concerning exophthalmic goitre, Gull's discovery of myxœdema, Kocher's observations upon cachexia strumipriva, and the effects of thyroid treatment, provide a connected story of clinical work in medicine and surgery, which led up to a solution of the functions of the thyroid gland, and which had its practical outcome in the restoration to health of many sufferers from myxœdema, the rescue of many cretins from imbecility and arrest of growth, and the amelioration of the lot of many sufferers from Graves's disease. Again it was the recognition of acromegaly by Pierre Marie, the study of its symptoms and morbid anatomy, the recognition by Fröhlich of the syndrome which bears his name, and that of the other results of pituitary defect, together with the surgical results of Cushing and others, which led us to our knowledge of the functions of the hypophysis, knowledge which has been greatly extended by the experimental work of Schäfer. Moreover, what inklings we have of the functions of the pineal gland, and of the adrenal cortex, are mainly derived from clinical observations of patients with tumours of those structures.

The chance that an accidental gunshot wound left the French-Canadian Alexis St. Martin with a gastric fistula, and that the American army surgeon, Beaumont, under whose care he came, was able to take full advantage of the opportunity so afforded, of studying the secretion and action of the gastric juice, proved of the utmost value in the elucidation of the problems of digestion. And in these times many clinical devices, such as test-meals, duodenal soundings, and bismuth meals, are throwing yet further light upon physiological as well as pathological processes.

The knowledge acquired in recent years of the mechanism of the heart's action is a triumph of scientific clinical medicine. This work, which is so closely associated with the names of James Mackenzie, Thomas Lewis, Wenckebach, and Einthoven, has been gained mainly by the study of derangements of the heart's beat in man, by means of the polygraph and electro-cardiograph.

But perhaps the most striking examples of all are afforded by the work which has been done upon the nervous system. Bouillaud described clinical and pathological physiology as the sister of experimental physiology, and since the middle of the nineteenth century an immense amount of knowledge of the functions of the brain and spinal cord has been acquired by the labours of a band of brilliant investigators, many of whom are our own countrymen, and most were, or are, physicians or surgeons. Of these I may mention Hughlings Jackson and David Ferrier, Charles Beevor, Victor Horsley, and Henry Head in this country, and on the Continent, Hitzig, Erb, Westphal, and Pierre Marie. By their researches they have furthered the work of the pure physiologists, Sherrington, Gaskell, Langley, Gotch, and others.

As regard localisation, the first definite steps indicating that the brain does not function as a whole, but as a congeries of organs, was the localisation by Broca, of the motor speech centre, in 1861, which was based upon the position of the local lesions in fatal cases of aphasia, and Hughlings Jackson's study of convulsions due to cortical lesions. These observations served as stimuli and pointed a way which was followed by many other observers, but by a not unfamiliar irony of things the assignment of a speech centre to the convolution of Broca no longer meets with acceptance.

Lastly may be cited the work of Head upon the seats of pain due to visceral lesions, and upon epicritic and protopathic sensations. It is clear that clinical observation is the royal road to the study of many kinds of sensory disturbance, in which an intelligent subject who can describe his sensations is needed, and in some instances the investigators have controlled their clinical observations by experiments upon themselves.

The examples quoted show that apart from the study of disease in bulk, and by statistical methods, there is also much to be learnt from the detailed study of individual cases.

In a letter which Harvey wrote, only six weeks before his death, to a Dutch physician who had sent him an unusual specimen, occurs the following passage: "It is even so—Nature is nowhere accustomed more openly to display her secret mysteries than in cases where she shows traces of her workings apart from the beaten path; nor is there any better way to advance the proper practice of medicine than to give our minds to the discovery of the usual law of Nature, by careful investigation of cases of rarer forms of disease. For it has been found, in almost all things, that what they contain of useful or applicable is hardly perceived unless we are deprived of them, or they become deranged in some way."

These words, as true to-day as when they were written, are full of encouragement for those of us for whom the study of Nature's experiments and mistakes has a special attraction. The structural malformation, or the hereditary and inborn departure from the normal of metabolism, although unimportant from the practical standpoint, may throw a ray of light into some dark place of embryology or biochemistry; and not a few of the rare maladies, such as chloroma, polycythæmia vera, sulphæmoglobinæmia, and the disease of which Bence-Jones albuminuria is a sign, offer fascinating and still unsolved problems of physiology and pathology.

Obviously clinical medicine presents immense fields of scientific research, and those who cultivate them have the added satisfaction of knowing that every advance of medical science will, sooner or later, bring in its train some forward movement of the healing art.

So, as we trace the history of natural science down through the centuries, we are confronted, at every stage, by the influence of medicine upon its progress. The desire to alleviate human suffering, to repair the ravages of disease, and to mend the broken part, has served as a powerful stimulus to observation and experimental work. It soon became obvious to the would-be healers that to understand disease they

must needs understand the healthy workings of the organism, and that pure science must precede applied. So, as Huxley said, medicine became the foster-mother of the sciences. But she became their schoolmistress also, and attracted to herself men whose scientific abilities would hardly have found an outlet in the other walks of life open to them in the earlier days, and them she not only taught, but supplied with means of livelihood whilst they pursued their chosen studies. Her part was rather that of a mother than of a foster-mother. They, in their turn, repaid her care by laying firm foundations upon which a rational healing art could be built up, and, as we have seen, not a few of them achieved epoch-making results in sciences outside the range of medicine.

Thus it has come about that immense, and indeed incalculable, as is the debt of medicine to the pure sciences, the debt of science to medicine is hardly if at all less great. But these mutual obligations are but internal debts, and the fact that medicine, in its widest sense, is merely a branch of natural science was recognised even by Aristotle who, at the end of his work on respiration, wrote as follows:—

"Our discussion of life and death and kindred topics is now practically complete. But health and disease also claim the attention of the scientist and not merely the physician, in so far as an account of their causes is concerned. The extent to which these two differ, and investigate diverse provinces must not escape us, since facts show that their enquiries are, to a certain extent at least, conterminous. For physicians of culture and refinement make some mention of natural science, and claim to derive their principles from it, while the most accomplished investigators into nature generally push their studies so far as to conclude with an account of medical principles."

Yet, as Huxley pointed out, "It is a peculiarity of the physical sciences that they are independent in proportion as they are imperfect; and it is only as they advance that the bonds which unite them become apparent." That this is so is far more obvious to-day than when these words were spoken more than 40 years ago. For as we gain more knowledge innumerable fresh links are brought to light; and the unity of natural science is daily being revealed more clearly as the boundaries of its several branches fade and become indistinct.

Few will any longer question the view that physiology is merely the chemistry and physics of living things. Physics has captured the structure of the atom, is absorbing chemistry into itself, and is becoming revealed as the great fundamental science, of which all the others are but branches. In this great complex of interlocked studies those which we class together under the comprehensive name of medicine have their allotted places, and advance in any one branch forwards the progress of the whole. To take our part in this progress is alike our privilege and our obligation as members of the great band of seekers after natural knowledge.

Upon the ceiling of the cloister of the University of Padua there are painted "stemmata" which record the sojourn there of many students who were councillors of their several "Nations," and amongst them are two which bear the name of Gulielmus Harveus, Anglus. Some of the designs are heraldic, but Harvey's is symbolic, nay prophetic. A right arm and hand holds up a caduceus, in which, in place of a lifeless staff, the twin serpents are entwined around a lighted candle which throws out beams in all directions. What more fitting emblem could have been devised? And yet these stemmata were painted when Harvey's work was scarce begun, and when he was still a member of the student body. To "search and study out the secrets of Nature by way of experiment" was his own way of life, and it is my duty to obey his injunction, and to exhort our younger brethren in the College to tread the path in which he led the way, and to see to it that in their hands the flame which Harvey lit shall burn as brightly as in Harvey's day.

Introductory Lecture
ON
PSYCHO-PHYSICAL INTERACTION.

Delivered at the Tavistock Clinic on Oct. 13th, 1924,

BY H. CRICHTON-MILLER, M.A., M.D. EDIN.,
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A COURSE of lectures on psychotherapy may well be introduced by a consideration of the interaction between mind and body. I find that both students and practitioners of medicine attend these lectures with views on this subject that are, to say the least, indefinite. The fundamental trouble is that our medical training tends to make us *causalists*—that is to say, we acquire a habit of labelling a clinical condition, and memorising a single cause for it. For instance, the picture of diphtheria is a clear-cut one, and it is satisfying to regard Löffler's bacillus as the causative agent. Asthma is a condition so simple to diagnose that we are generally saved the trouble by the patient's information. But when we talk of a cause, we find nothing specific, no satisfactory *causa causans* comparable to Löffler's bacillus. Every victim of asthma has his own views and theories as to causation. Rarely is it possible to correlate these with any of the views held by modern physicians. Frequently we are struck by the fact that anticipation and association constitute precipitating, or at least predisposing, factors. Now and again we come across what appears to be a definite and specific ætiology. For instance, a patient may state that he gets asthma if he eats egg or any article of diet containing the minutest fraction of egg. On testing his protein sensitivity to egg we find he reacts energetically. Here, then, is a case in which we approach a cause for a morbid state. But in general the ætiology of asthma is complex, and the more we study it the more we are forced to recognise that the clinical picture results not from a cause but from the conjunction of various conditions, and that these conditions need not all be physical, but may be some physical and some emotional in their nature. To study such a disease we must approach it from the standpoint of conditionalism. A woman who suffered from asthma whenever she was at the seaside discovered to her surprise during her first pregnancy that she was unaffected, and this observation was confirmed during subsequent pregnancies. Hence her asthma, if it was caused by an atmospheric factor, was also influenced by a metabolic factor involved in pregnancy. Again, I have said that a disease such as asthma may be conditioned not only by different organic factors but also by emotional factors. For proof of this we have but to look to the various forms of faith-healing, suggestion, and auto-suggestion. All of these can claim with good authority permanent cures of cases of asthma. Most general practitioners have come across cases of this disease conditioned by all sorts of fears, preconceptions, and superstitions. I submit, then, that no efficient treatment of asthma can be based upon any preconceived theory of cause and effect. We must study the conditions which determine attacks, and we must address ourselves to the treatment of these conditions in order of their therapeutic accessibility.

THE LIMITATIONS OF NEUROLOGICAL LOCALISATION.

Our neurological friends have for many years laid great stress on localisation, and by localisation astonishing and dramatic cures have been and are being wrought. But localisation frequently affords little or no help in therapeutics. It is right and proper that we should all know that paralysis agitans is essentially the result of degeneration of the posterior elements of the basal ganglia. But the knowledge

brings with it no clear therapeutic inspiration. I would almost go the length of saying that to some medical minds—of second-rate calibre, of course—the knowledge may lead to a therapeutic pessimism even greater than is called for. Is it not possible that sometimes our neurological localisation impedes our searching as conscientiously as we might for sources of degeneration, such as systemic infections? If the sufferer from paralysis agitans have an intestinal infection of long standing, it is clearly more important to him that the organism be isolated than that the neural degeneration be localised.

Ménière's disease is another example. I have seen a case so labelled that had undergone five operations—two on the mastoid and three on the labyrinth. When all the semicircular canals had been obliterated the symptoms remained apparently unaffected. Now I am perfectly prepared to believe that this patient originally suffered from organic disorder of the ear. I had no opportunity of judging as the patient was brought to me only after the failure of these somewhat heroic methods. I can, however, make two statements about this case: (1) her transverse colon, which was removed by an eminent surgeon and is to be seen in a certain University museum, measured 19 inches in diameter (the patient was an ill-developed girl of 23); (2) psychologically she was a complete case of the Freudian Electra complex down to the last detail.

I imagine that surgeons of the Lane school would have been very ready to attribute the vertigo to intestinal toxæmia. I am certain that many psychoanalysts would have put it down to conversion hysteria, and we know that the otologists (for several were involved) attributed the vertigo to labyrinthitis. From the analytical standpoint there is no necessity to admit either of these physical factors. I mean by that that the psychological picture was complete; that the vertigo and its incidence fulfilled the defence function of a psychoneurosis, and that it was possible in the subsequent analysis to associate the illness and its various manifestations with the patient's morbid reactions to her situation. Her mind was in an exceedingly morbid condition—only comparable to the state of her colon. And the proof remains that after her colon had been transferred from the abdomen to the museum, and after her ear had been operated on five times she continued to complain of vertigo.

We may say with a certain degree of safety that no one of these factors was the cause of the vertigo. We must assume, I think, that all three were conditioning factors. (In point of fact I believe there were others which need not be referred to.) The function of the psychotherapist is, I take it, to influence these conditions in so far as he can do so through the mind. It is not his business to extirpate semicircular canals nor to remove a distended colon. On the other hand, I conceive it to be very much his affair to assess as far as possible the relative importance of the ætiological conditions. It is possible, but perhaps not probable, that the otologists might have spared a canal or two, had they been in possession of the data obtained from subsequent analysis. It is also conceivable that the abdominal surgeon, had he possessed this information, might have given a somewhat less confident prognosis. But the human mind relapses very easily to causalism and only holds on to a conditionalist standpoint with difficulty. Whatever may be thought and said in other departments of medicine let the psychotherapist, before all his colleagues, maintain a broad conditionalist outlook, for there is nothing that has more militated against the popularity of our work than the narrow views of psychogenesis that have been enunciated by some. The more experience I have in this field, the more am I inclined to say that very few diseases are caused solely by a mental factor, and that there are few diseases into which a mental factor may not enter. We often hear the taunt, "Can Christian Science cure a broken leg?" Of course the answer is in the negative, and yet it seems to me conceivable that acute anxiety may have in certain cases such a far-reaching effect on the circulation as to influence, albeit in a minimal degree, the process of repair.

One of the best examples of conditional ætiology is probably dementia præcox. The factor of gonadal inadequacy has been clearly demonstrated by Sir Frederick Mott's researches. Jung and other analysts have shown the constant presence of a conflict over authority. These theories may seem mutually contradictory, but if we regard them from the point of view of conditionalists, we see in them factors which by their conjunction may determine the familiar psychosis. It is clear that the adolescent, as he passes into maturity, regards the challenge of life in relation to two factors. The first is the menacing character of that challenge, and the second is the biological sense of adequacy within himself. If a boy is always assured by his father that he will never succeed in life if he does not mend his ways, he is apt to conceive of life as a very arduous and exacting proposition. If he feels the potency of a normal young adult male, he will face this and make good. But if the endocrine factor is defective he will retreat from life, and if it is very defective he will still retreat from it, though the prospect of manhood has been presented to him in perfectly suitable terms. If a motor-car stops on a hill we may say that the engine is weak or the hill is steep. This is the attitude of the causalist. The conditionalist says that for such a hill the engine was too weak, or for such an engine the hill was too steep.

THE CONNEXION BETWEEN DUCTLESS GLANDS AND MENTAL PROCESSES.

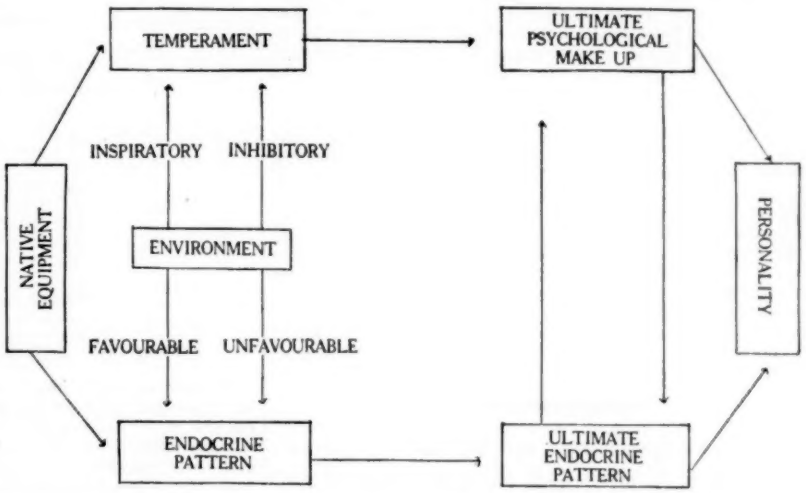
This example brings us to the important question of the connexion between the ductless glands and mental processes. There are certain scientific circles in which it is fashionable nowadays to decry organotherapy. The usual high-brow formula is, "We have not a trace of evidence that any endocrine substance taken by the mouth is assimilated, with the sole exception of thyroid." It is very natural. The commercial drug houses have exploited organotherapy with more zeal than wisdom. The subject is intensely complex, and it is always easy for the scientist to attribute to suggestion any therapeutic efficacy that may be claimed for organotherapy.

As I am not an endocrinologist I hold no brief for organotherapy, but I advise you very strongly to read all the best literature you can get on this subject—experiment continually, and formulate your own conclusions as to efficacy or otherwise. The organotherapy of to-day may be a very feeble affair, but I believe very firmly in the organotherapy of to-morrow, and that is going to be based largely on honest clinical observation. There is nothing more dramatic in the whole of medicine than the dissipation of the depression of a subthyroidic patient by the administration of thyroid extract. That particular value of thyroid was not discovered in a laboratory. I believe there is a range of subtle subjective phenomena that depend on endocrine deficiencies or disequilibria and that one day we shall be able to treat them by an improved organotherapy. I hope I have said enough to make you realise that the practical psychotherapist must always have an eye open to the patient's endocrine situation. In other words, the endocrine factor constitutes a condition of many abnormal mental states.

SYSTEMIC INFECTION.

Another condition which the psychotherapist must be alive to is that of systemic infection. I see a good many cases who are sent by their doctors as being "organically sound." In some cases their mere appearance belies this statement. In other cases a blood count reveals a serious lymphocytosis. In others, again, there is found to be a very low basal metabolic rate. In one case I recall this phrase was applied to a man whose cerebro-spinal fluid gave a very positive Wassermann reaction. It is, no doubt, a matter of terminology, but I should not feel inclined to describe any such cases as "organically sound."

Now the psychotherapist needs to consider the condition of toxæmia more than most physicians for this reason. A large number of our patients are people who temperamentally react to toxic absorption first of all on the psychic plane. They may develop irritability, lassitude, or phobiæ. They repeat the familiar formula, "It's all my nerves, doctor." Their family physician regards them as run down, and when the usual tonics fail to effect a cure he begins to suspect them of being hysterical, and casts around for some wastepaper basket to which he may consign such unrewarding clinical material. If such a case had reacted to the systemic infection by developing arthritic changes, the family physician would no doubt have instituted a careful search for a focus of infection. Tonsils and sinuses, teeth and intestines would probably have been thought of with a view to radical treatment. But if the symptoms are mere "nerves," or even a threatening psychosis, focal infection does not occur as a possible ætiological factor. Recently I was consulted about a young married woman who had developed mental symptoms shortly after her first confinement. She was in a private asylum. I communicated with the superintendent and asked for information. I was told that she had a bad heredity, and was holding her own. I asked if there was any evidence of a toxic factor, and suggested that a blood count might possibly throw some light on the situation. The only result was that the husband was told that the examination I suggested could not be carried out, and that he might remove his wife if he wished me to treat her. Now I perfectly appreciate the superintendent's emphasis on heredity, but we must remember that heredity is a factor that influences prognosis, but does not affect treatment. In mental cases a bad heredity should stimulate us therapeutically—it too often tends to paralyse us. I think the superintendent had allowed himself to be paralysed by the idea that a puerperal psychosis was just what one would expect in a woman with such a heredity. But why not investigate the question of infection? Surely it is not too much to ask for a blood count? Furthermore, it is obvious that in all puerperal conditions the question of endocrine disequilibrium necessarily arises, seeing that parturition involves the greatest physiological upheaval to which the endocrine system can be subjected.



How Personality is Built Up.

I have found it useful in studying personality to think of the factors that have contributed to its final form according to the accompanying schema. By native equipment I mean the things that we start with, such as musical talent, red hair, and a sense of humour. Red hair is no doubt attributable to something specific in our original endocrine pattern. Whether musical talent is associated with the endocrine system or not is an open question—many have claimed that it is so; and when it comes to a sense of humour, I only know that of all human characteristics this is the most essentially congenital one in that it appears to develop or not without any reference to environment.

Now our endocrine pattern is influenced by environmental factors, favourable or unfavourable. Thus a child may start life with an inherited potentiality of great stature, and owing to morbid influences the endocrine pattern may undergo change, and he may reach maturity with only stunted growth. Similarly, a child may start life with a well-balanced thyroid function, but when puberty supervenes the influence of the developing gonads upon the adrenals and on the sympathetic system may well result in an over-activity of the thyroid which we are accustomed to observe clinically, especially in girls. We are accustomed to think of the mental effects of hypertrophied tonsils and adenoids upon the child, but we are apt to forget that this result is produced entirely through the endocrine system. Chronic toxæmia affects first the thyroid and then the adrenals in such a way as to produce the familiar heaviness of such cases.

Thus we reach our ultimate endocrine pattern. Throughout life the endocrine system is subject to continual alteration of equilibrium of a physiological character, and throughout life it is exposed to toxic influences of one kind or another. Our personality at any given moment is what it is, partly because our endocrine pattern has undergone the changes which it has undergone. One woman is stout and cheerful because she has had five children, and the balance between her thyroid and ovarian hormones causes her to be so. This man is dull, irritable, and is losing initiative because an undiscovered abscess at the root of a molar has been slowly poisoning his thyroid for months, if not years. Every physician recognises that chronic constipation causes a multitude of troubles, both physical and mental, but we often fail to recognise that these morbid results can be interpreted in terms of adrenal deficiency.

Turning now to the temperamental factors, just as physiologic and pathologic factors constantly influence the endocrine pattern, so temperamental factors are subject to environmental influences of a psychic character. A child may be born with the possibility of a good memory, but his upbringing may do nothing to develop that memory, whereas another child with less possibility may be so trained as to develop to the full his power of memory. One child with excellent mathematical possibilities may go through life with them undeveloped, while another, no more richly endowed, becomes a Senior Wrangler.

Now the point we have to study as psychotherapists is the two-fold basis of personality—what I have called psychological make-up and endocrine pattern. I have tried to indicate some ways in which these attain their ultimate forms. Both contribute to personality, and it is useless to study the behaviour and reactions of an individual solely in psychological terms—still less in neurological terms. A depression which manifests itself after influenza is not a condition

to be approached from the psychical point of view. Everyone will agree with this statement, and yet it may be paraphrased thus: "In so far as personality at any given moment is based upon the psychological make-up and the endocrine pattern of that moment, it is necessary to treat abnormalities of reaction from the psychological or the endocrine angle, according to which appears to be affected."

Thus, to go back to the question of dementia præcox. If there be a way to ensure gonad stimulation, it should certainly be used in conjunction with such psychological methods as are best calculated to overcome the patient's conflict over authority. So again, take the familiar disturbances of the climacteric. We know enough to realise that there are very definite psychological factors, and our success in treating these cases will depend upon our skill in both fields of therapy.

A great deal of dissension amongst doctors over psychotherapy may be traced to the fact that so few of us have successfully developed binocular vision. It behoves us as psychotherapists to develop this vision to the fullest extent possible, so that we may be able to approach every case with an open mind ready to accept whatever conclusions we may arrive at as to its ætiology, be the factors physical or mental. In connexion with the subject of this lecture the following books are worth reading: "The Sympathetic Nervous System," by Langdon Brown; "The Defective Delinquent and Insane," by Henry A. Cotton; "The Glands Regulating Personality," by Louis Bernan. The first-named is probably worth reading many times over. The second gives one a tremendous impression of the possibility of approaching mental disequilibrium from the point of view of toxic influences. The third is a very amusing, and to some extent suggestive book which should help us to think more clearly with regard to the endocrine system.

THE TREATMENT OF MALIGNANT DISEASE OF THE TESTICLE.

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"It must first be recognised that carcinoma, in the beginning, is an absolutely local disease."—Robert Abbe.*

IN dealing with the treatment of malignant diseases of any organ there are certain well-recognised rules of technique which every surgeon attempts to fulfil. Briefly stated, they are that the primary growth is to be widely removed with its primary lymphatic field and all intervening tissue in one complete mass. The operations for removal of a carcinoma of the breast and of the colon provide excellent examples of the fulfilment of these rules of technique, which in these instances are universally carried out. For certain reasons, such as the inaccessibility of the lymphatic field, these rules have never been generally applied to the surgery of the testicle. In this country the balance of opinion is overwhelmingly in favour of a limited operation, and in most other countries the extensive radical operation finds only a limited measure of support. Occasional spasmodic efforts have been made to popularise the extensive procedure, but nowhere have they succeeded, with the one possible exception of the French school. Even there, so distinguished a genito-urinary surgeon as Marion has declared against it, and in America the great exponent—Hinman—is not followed to any marked extent. In this country the degree of unanimity in favour of conservative measures is somewhat surprising, but nevertheless there is a certain limited demand for heroic measures, and it appears advisable that both methods should be described and subjected to close criticism before a definite pronouncement can be made upon their respective merits.

* Keen's Surgery, vol. iv., p. 158.

Lymphatic Drainage of the Testicle.

The drainage of any organ is of paramount importance when surgical procedures are to be planned, for it is the lymphatic distribution which determines the extent of the operative field. This point is of unusual importance in the case of testicular tumours, as I have already foreshadowed. I have, therefore, carried out some injection experiments of the testicular lymphatics in the post-mortem room on bodies of varying ages. The experiments were done on much the same lines as those of Jamieson and Dobson,[1] in 1910, and they give very similar results. These observers have come to be regarded as the leading English authorities on many areas of lymphatic drainage, and their tabulated results are worth quoting (Table I.).

TABLE I.—*Jamieson and Dobson's Results.*

No. of expt.	To right of I.V.C.	Front of I.V.C.	Between aorta and I.V.C.	Front of aorta.		Left of aorta.
1	0	1	1	0	0	1
2	0	1	2	0	3	2
3	0	1	2	1	0	2
4	0	1	2	2	2	3
5	0	0	3	2	Not injected.	
6	0	1	1	0	2	1
7	1	0	3	0	0	1
8	0	0	2	1	Not injected.	
9	0	0	2	0	0	1
10	0	0	1	1	Not injected.	
	Right side.					Left side.

All cases were full-time fœtuses.
Figures refer to the number of glands injected.

In two of their cases an injected gland was found on the right side of the pelvic brim. Those injected on the right side were on the level of the lower pole of the right kidney, and those on the left were in close relationship to the origin of the inferior mesenteric artery and from it down to the bifurcation of the aorta. These were all glands of the primary lymphatic field, but the injection fluid passed quite readily into the glands around the origin of the superior mesenteric and of the cœliac axis arteries, across to the glands on the opposite side, and downward to the external iliac group.

My own experiments were made with a saturated solution of methylene-blue injected into the body of the testicle. The fluid could be seen mounting upwards and reaching the glands. All the injections were done in the presence of several observers, all of whom were satisfied that the vessels injected were lymphatics, and that the fluid in them was undoubtedly the injection fluid (Table II.).

TABLE II.—*Results.*

No. of expt.	Age.	Right ext. iliac.	Right of I.V.C.	Front of I.V.C.	Between I.V.C. and aorta	Front of aorta		Left of aorta
1	Full time fœtus	1	0	1	1	0	2	1
2	,,	0	0	1	2	0	1	1
3	56	1	0	1	2	0	0	1
4	14	0	0	1	2	0	1	2
5	12	1	1	1	3	0	2	1
6	9	0	0	2	2	0	1	2
		Right side.						Left side.

It will be noticed that in both sets of experiments a high proportion of the glands on the right side lie either in front of the inferior vena cava or between it and the aorta. The latter group lie deeply in the groove between these vessels. Those on the left side are intimately related to the inferior mesenteric artery. In two of my experiments a vessel was injected which as far as I know has not been described previously. It occurred on the right side in each case, and left the cord with the vas deferens, with

which it did not keep in close contact, but ran parallel to it at a higher level, and ended in the prostatic plexus.

Simple Orchidectomy.

An incision is made one inch above and parallel to Poupart's ligament, and corresponds in length to the inguinal canal with a prolongation of one or two inches towards the scrotum. The aponeurosis of the external oblique muscle is divided from the external ring to the level of the internal ring. The whole cord is now dissected free and lifted from its bed, and the arching fibres of the internal oblique muscle being retracted upwards and outwards, it is traced to the internal ring. Two heavy crushing clamps are now applied to the cord, one at the ring and the other just distal to the first. The intervening tissue is now divided with the Pacquelin cautery, the proximal stump being then ligated and allowed to retract. It must be understood that the testicle still lies undisturbed in the scrotum, this being a point of technique I wish particularly to emphasise for premature handling before division of the cord tends to encourage lymphatic embolism. The testicle is now freed from its areolar attachments in the scrotum, and is delivered into the wound by gentle traction on the cord and pressure from below. It is now free and can be removed with the cord attached still clamped to prevent any malignant seeding of the wound. The aponeurosis of the external oblique is repaired, any bleeding points ligated, and the wound closed without drainage. The operative mortality is non-existent, convalescence is rapid, and the patient is allowed to walk on the twelfth day.

It is not necessary to remove any part of the scrotum in the ordinary way, but in those cases in which the growth has spread into the scrotal skin it may be considered right to do a palliative operation to relieve the patient of the fungating mass. There are many cases of superficial carcinoma which are really inoperable—e.g., those of the breast fungating through the skin, filthy malignant ulcers of the tongue—but in which the patient's general condition and especially his or her comfort is greatly improved by some palliative procedure. In such cases the testicle and its half of the scrotum are removed by a racquet incision, the handle of which corresponds to the usual inguinal incision, and the racquet is planned to suit the need of each individual case.

The Radical Operation.

In that I have never performed this operation, it follows that this account is based on the writing of others. The most recent and the most lucid exposition comes from Hinman,[2] and his technique is here outlined:—

Stage 1. Division of the Cord at the Internal Ring. — This step is exactly the same as that already described under simple orchidectomy, with one exception. Before severing the cord the vas is isolated at the ring, clamped, and divided separably, the rest of the cord being dealt with as before.

Stage 2. The Lymphatic Attack (operation on right side described).—The incision is now continued in an upward direction to the tip of the eleventh costal cartilage. It is carried through the muscles down to the peritoneum, which is then pushed inwards by gauze dissection, care being taken to strip the ureter and spermatic vessels, thus leaving them on the psoas major muscle. Beginning at the clamped end of the cord, the dissection is carried upwards and inwards until the spermatic vessels and lymphatics are cleared up to the inferior vena cava. The artery and vein are clamped and divided high up. The glands are then dissected with great care from the surface of the vena cava and from the groove between it and the aorta. The mass is now free and is removed.

Stage 3. Removal of the Vas.—Attention is now turned to the vas, the pelvic peritoneum being stripped up from the lateral wall. The vas is traced to the neighbourhood of the bladder, where it is divided wth the cautery.

Stage 4. Removal of the Testicle.—The final stages are as described under the simple operation, but a drain of rubber tissue must be inserted in the area of retro-peritoneal dissection for 24 hours. The incision is closed with care in layers.

Case for the Simple Operation.

It has been stated that the radical operation is not generally practised, and I have already indicated my opposition to it. It is obvious that very strong reasons must be brought forward to allow the abandonment of all the usual laws of the treatment of malignant tumours, and to set the seal of general approbation on a limited operation. Certain aspects of this unusual problem must be criticised separately.

1. *Feasibility of Complete Removal of the Primary Lymphatic Field.*—If the radical operation is to be justified, it must be proved that it is within the realms of surgical possibility to remove completely the primary lymphatic field without grave injury to vital structures. Jamieson and Dobson's description, which is supported by my own injection experiments, shows quite clearly that on the right side the glands primarily involved lie on the anterior surface of the inferior vena cava and in the groove between it and the aorta; and the dissection must extend from the level of the renal vein to the termination of the common iliac artery. On the left side the glands affected will lie to the left of, and on the anterior surface of the aorta, and bear an intimate relationship to the origin of the inferior mesenteric artery, and the extent of the dissection is as wide as that on the right. Further, the spermatic vessels and the testicular lymphatics are fairly firmly attached to the posterior surface of the peritoneum, and when the latter is pushed inwards during the operation the vascular lymphatic chain has to be dissected off the peritoneum. In so doing there is considerable danger of rupturing the fragile lymphatics and so seeding the wound with malignant cells if present.

It does not need a long memory on the part of any surgeon to picture the difficulties encountered in stripping carcinomatous glands off the internal jugular or the axillary veins. These veins can, however, be ligated with impunity, but the prospect of injuring the vena cava is not one to be faced with equanimity. The left-sided operation presents another grave possibility, for the affected glands are surrounding the origin of the inferior mesenteric artery. Hinman claims that the danger of tying this artery has been over-estimated, but I submit that in the human subject he has no grounds whatsoever for any such statement, particularly as in one case he did tie this artery and the patient died. For these reasons I am convinced that it is impracticable to remove completely the primary lymphatic field. Jamieson and Dobson expressed the same opinion in 1910, and in the last edition (1921) of Sir John Bland-Sutton's "Tumours, Innocent and Malignant" occurs this sentence: "My experiences of the operation leads me to agree with Jamieson and Dobson that the complete removal of the lymphatic area around the mesenteric and renal vessels is impracticable."

2. *Present Position of the Surgery of the Carcinomatous Lymphatic Glands.*—If the results of operative methods for carcinoma in general showed brilliant success and a high percentage of cures, it would be our bounden duty to elaborate some method which would overcome the difficulties enumerated above. But it cannot be gainsaid that there is widespread dissatisfaction with the results of operations for malignant disease. It is recognised that early cases do well, largely because no lymphatic involvement has occurred, but I think there are but few surgeons who will not give a bad prognosis when lymphatic dissemination is known to have taken place. I suggest that, amongst those who are earnestly considering this grave subject, many are coming to believe that once carcinomatous involvement of the glands is present, surgical procedures, however extensive, hold out but a faint hope of eradicating the disease completely. The trend of surgical opinion is reflected in the concluding paragraph of Clayton-Greene's[3] article on carcinoma of the tongue in Choyce's "System of Surgery." The modern operation for carcinoma of the tongue cannot be described as

a radical operation. Again, Lockhart-Mummery's brilliant perineal operation for carcinoma of the rectum cannot claim radical status. And lastly, we have the revolutionary doctrine of Douglas Quick,[4] who maintains that the outlook is made definitely worse by an attack on the lymphatics, because this leads to implantation of the growth of the cellular tissues, a more rapidly fatal condition. I am of opinion that an investigation along these lines is now urgently required.

3. *Analysis of Results.*—My contentions must necessarily fall to the ground unless I can bring forward results as good as those following the extensive operation. The best paper on this subject is by Hinman and others working with him. I shall therefore contrast his results and my own.

Hinman reports 79 cases with the following results:

Operative mortality	10 = 12·6 %
Deaths from metastasis	24
Alive with metastasis	6
Alive and well	34 = 43·0 %
Lost or incomplete data	5

These can be criticised under several headings.

Group 1A consists of 9 cases in which glands were palpable clinically before operation.

Group 1B consists of 13 cases in which the glands were so extensive as to be inoperable.

Group 2A consists of 25 cases in which no metastases were found in the glands removed.

Group 2B consists of 26 cases in which metastases were found.

Group 3. Six cases with incomplete data.

In Group 1A eight patients are dead and one alive with metastasis. This seems sufficient to lay down the principle that all cases with palpable glands before operation are definitely inoperable. It seems reasonable to suggest that the 22 cases of Group 1 were subjected to the radical operation quite unnecessarily with an operative mortality of 22·7 per cent. In Group 2A no metastases were found in the glands, and again the necessity for the radical operation is at least doubtful. There remains the group of 26 cases with metastases in the glands—the crux of the whole argument, for these must have all died eventually from a local orchidectomy. Hinman lays great stress on the fact that of these patients four are alive after four years and he claims in them a cure. Against that has to be placed a 12·6 per cent. operative mortality, which is a very considerable one.

I have been able to collect 23 cases from the records of the past 14 years at St. Mary's Hospital. Every effort has been made to trace these patients, and all of those alive and well except one of the most recent ones has been seen personally and thoroughly examined. My results in detail are:—

A. Cases treated by radical operation		1
Dead		1
B. Simple orchidectomy		22
Untraced		4
Dead		5
Alive with metasta		2
Alive and well		11 = 50 %

Analysis of five deaths from simple orchidectomy:—

Palpable metastases at time of operation	1
,, ,, + scrotal involvement	1
No palpable metastasis	1
Lived for 7½ years (cause of death unknown)	1
Lived for 4½ years and died of pulmonary and laryngeal tuberculosis	1

Analysis of two alive with metastases. Both had palpable metastases, and a purely palliative operation was performed in each case to avoid threatened fungation through the skin of the scrotum.

Analysis of 11 alive and well:—

After 10½ years	1	After 3½ years	1
,, 8½ ,,	1	,, 18 months	3
,, 4½ ,,	1	Less than 12 months	2
,, 4 ,,	2		

Results contrasted:—

	Hinman and others.	Author.
Number	79	22
Operative mortality	10 (12·6 %)	Nil.
Cases alive and well	34 (43·04 %)	11 (50 %) } 59 %
Cases alive for over four years, but dead from other causes	—	2* (9 %) } 59 %

Of the two cases marked with an asterisk, one died 7½ years after operation from causes unknown, and one died 4½ years from tuberculosis of the lungs and larynx. As Hinman claims four years as the criterion for cure I may safely claim 13 cases. The points needing emphasis are that the radical operation has a serious operative mortality, whereas the simple orchidectomy has none. Moreover, the results of a local operation seem in no way inferior, but rather better; indeed, a recovery-rate of over 50 per cent. in malignant disease compares very favourably with the results of most carcinoma.

Auxiliary Measures.

In those cases which have palpable metastases, certain auxiliary methods of treatment must be considered in order that the patient may be given every possible chance.

(*a*) *X Rays.*—Deep radiotherapy has advanced considerably in the last few years, and it is now considered that localised growths can be attacked with some hope of success. Unfortunately, secondary growths from the testicle cover a wide area and lie very deeply. There is necessarily a limit to the X ray dosage which cannot safely be passed. The full skin erythema dose is so reduced when it arrives at the juxta-aortic glands that its therapeutic effect is small. Attempts may be made to "cross-fire" the growth from many angles, so reducing the danger of skin injury, but when this is done the cumulative dose reaches such a high degree that damage to the intestine cannot be prevented if a full therapeutic dose is to reach the glands. It is therefore not feasible to do much with X rays, an opinion confirmed by Orbaan.[5]

(*b*) *Radium.*—Precisely the same remarks apply to the results of radium therapy when applied over the skin. But radium implantation holds out slightly brighter prospects. A case reported by Taylor is interesting in this respect. A doctor had a malignant retained abdominal testicle with secondaries in the left iliac fossa, with compression of the vessels and œdema of the leg. Radium implantation gave great relief and enabled him once again to lead an active life. But 18 months later there were recurrences in the neck and elsewhere. Barringer and Dean[6] claim moderate results, but Dr. Hayward Pinch tells me that he would hardly expect any really good results from radiotherapy in such deeply-placed metastases.

In conclusion, I have to thank my colleagues on the staff of St. Mary's Hospital for allowing me to use the material found in the clinical records. I have presented my results in a series of cases of simple orchidectomy, and have brought forward grounds to show that it is not a practicable, and therefore not a justifiable, procedure to attempt to remove the lymphatic field. A simple orchidectomy will cure a large percentage of cases if these are seen early enough. The population need educating to the fact that any enlargement of the testicle demands an immediate investigation as to its nature. The quotation at the beginning of this article emphasises a fact which is almost universally overlooked. While carcinoma and all other forms of malignant disease remain local, a purely local removal is alone required for success, but once the disease has begun to spread surgical procedures, no matter how extensive, show a very poor percentage of successful cures.

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AUTO-HÆMAGGLUTINATION IN A CASE OF PERNICIOUS ANÆMIA,

WITH SUBACUTE COMBINED SCLEROSIS.

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THE agglutination of a person's red blood corpuscles by his own plasma or serum—i.e., auto-agglutination—would appear from the literature to be of rare occurrence in man. The case we record below was under the care of Dr. John Owen at the Liverpool Royal Infirmary, and we are greatly indebted to him for permission to investigate and record it.

Brief History and Description of Case.

S. G., male, aged 52 years, married, had one child who died at 9 years of age from "wasting." His wife is healthy and has had no miscarriages. Family history negative. No previous serious illnesses. For 15 months he has had paræsthesiæ of whole body, but especially of legs and feet, and gradually increasing weakness of legs and loss of energy.

On examination the typical features of pernicious anæmia associated with subacute combined sclerosis were present: lemon-yellow tint, marked pallor, little wasting, typical "glossitic" tongue, marked weakness with loss of joint, muscle, and vibration sense in upper and lower limbs, increased deep reflexes and bilateral extensor toe response, &c.

The blood findings on admission were: Red corpuscles, 2,400,000 per c.mm.; hæmoglobin, 44 per cent.; white corpuscles, 8000 per c.mm.; differential count (per cent.) on 400 white cells: polymorphs, 45·5; large lymphocytes, 5; small lymphocytes, 45·75; mononuclears, 1·25; eosinophils, 1·25; basophils, 0·5; myelocytes, 0·75. During this count three normoblasts and four megaloblasts were seen. An Arneth count (per cent.) of the polymorphs gave: Class (1), 9·3; (2), 21·4; (3), 40·1; (4), 20·9; (5), 8·3; Arneth index, 50·75. Blood film: Marked anisocytosis with megalocytic predominance, poikilocytosis and polychromatophilia. No punctate basophils seen. Normoblasts and megaloblasts present.

Wassermannn reaction: Strongly positive. Fragility of red cells and coagulation time of blood (method of Dale and Laidlaw): Normal. Van den Bergh reaction: Negative direct; positive indirect reaction. Urine: Excess of urobilin and urobilinogen. Fæces: No parasites; no occult blood. Fractional gastric analysis: Complete achlorhydria with a very low total acidity (10 c.cm. N/10 HCl per cent.); no blood nor bile.

Auto-agglutination was noticed during the routine blood examination. In diluting the blood for a cell count and in the preparation of blood films the phenomenon declared itself. That it was due neither to the apparatus nor to the solutions used was apparent from its repeated occurrence with new apparatus and fresh solutions. Moreover, on the same glass slide on which the auto-agglutination occurred with S. G.'s blood, blood from other patients remained non-agglutinated.

In order to study further this phenomenon of auto-agglutination, blood was withdrawn by venous puncture. A portion of this was allowed to clot and the serum collected; the remainder was citrated to prevent clotting, immediately centrifugalised, and the red cells carefully washed with warm saline (37° C.).

Results.

The following tables show the effects of varying dilutions of S. G.'s serum on his own cells and those of other groups at body and room temperature. The cells and serum of pure members only of the four blood groups were used in this investigation.

The red cells of S. G. were not agglutinated by the serum of any normal blood group either at body or room temperature.

Tables showing effect of S. G.'s serum (diluted with normal saline) on the cells (2½ per cent. suspension in normal saline) of the blood groups I., II., III., and IV., (A) at 37° C. and (B) at 12° C. (room temperature).

A.

Cells of group—	Dilution of S. G.'s serum. 1/2	1/6	1/18	1/54	1/162
I. ..	+++	++	++	+	+
II. ..	++	++	+	+	+
III...	++	++	+	+	−
IV...	−	−	−	−	−
S. G. ..	−		−	−	−

B.

Cells of group—	Dilution of S.G.'s serum. 1/2	1/6	1/18	1/54	1/162
I. ..	+++	+++	+++	++	++
II. ..	+++	+++	++	+	+
III...	+++	++	++	+	−
IV...	+++	+++	+++	++	+
S. G. ..	++	+		−	−

+++, complete agglutination; ++, marked but not complete agglutination; +, slight but definite agglutination; −, no agglutination.

Certain facts which emerge from a study of the above are:—

1. The patient belongs to blood group IV., and his serum contains the iso-agglutinins for groups I., II., and III.
2. The power of auto-agglutination does not reside in the red corpuscles, since S. G.'s cells are not agglutinated by the serum of a normal member of any blood group.
3. Auto-agglutination occurs only at low temperature. If tubes containing S. G.'s blood be gradually cooled auto-agglutination begins to appear at 22°–26° C.; if, after cooling, the same set of tubes be gradually warmed, auto-agglutination remains in some degree until 32°–34° C. is reached, thus demonstrating the reversibility of the reaction.
4. (*a*) The agglutinating power of S. G.'s serum is for all groups greater in the cold than at body temperature. (*b*) The agglutinating power in the cold of S. G.'s serum is greater for cells from normal members of his own group (IV.) than for his own cells.

Additional facts we have determined are:—

5. The auto-agglutinin of S. G.'s serum agglutinates the cells of—
   (*a*) Rabbit (dilution of serum 1/486+).
   (*b*) Guinea-pig (dilution of serum 1/162+).
   (*c*) Sheep (dilution of serum 1/18+).
   (*d*) Goat (dilution of serum 1/18+).

   Other workers have shown, and our observations confirm, that this agglutination is distinct from that due to hetero-agglutinins normally present in serum.
6. Auto-agglutination is associated with the removal from the serum, by the red cells, of the auto-agglutinin*; for if S. G.'s serum be mixed with a suspension of his cells in the cold, allowed to stand and the mixture be then centrifugalised, the supernatant fluid does not contain the auto-agglutinin, though the iso-agglutinins for groups I., II., and III., can be demonstrated.
7. There is no evidence of auto-phagocytosis in S. G.'s blood (Prof. E. E. Glynn); nor of any auto-hæmolysis.

Discussion.

Clough and Richter,[1] in their paper A Study of an Auto-agglutinin occurring in a Human Serum, have recorded fully a case of chronic mitral endocarditis with broncho-pneumonia which showed this phenomenon. They make no reference, however, to its occurrence in trypanosomiasis, clinical and experimental, probably the commonest condition by far with which auto-agglutination is associated, and they appear to have overlooked a paper by Warrington Yorke,[2] in which are recorded fully and accurately the effect of temperature on auto-agglutination, the adsorption of agglutinin by the red cells, the reversibility of the process, and the effect of the agglutinin on the cells of other animals.

Clinically, auto-agglutination has been observed in the following conditions:—

1. Trypanosomiasis (Kanthack, Durham, and Blandford[3]; Christy[4]; Dutton and Todd[5]; Martin, Leboeuf, and Roubaud[6]; Yorke,[2] &c.).
2. Cirrhosis of the liver (Reitmann[7]; Klein[8]).

* † Adsorption of agglutinin by the cells: this is supported by the reversibility of the process—i.e., on warming, the auto-agglutinin is liberated.

3. Relapsing fever (Todd [9]; experimentally in rats by Nattan-Larrier [10]).
4. Syphilis (Dudgeon [11]; Todd [9]).
5. Long-standing epilepsy (Dudgeon [11]).
6. Certain forms of icterus due to hæmolysis (Martin and Darré [12]).
7. Broncho-pneumonia with chronic mitral endocarditis (Clough and Richter [1]).
8. Marked secondary anæmia due to hæmorrhage from hæmorrhoids; and heart disease (Kliger [13]).
9. Pernicious anæmia with subacute combined sclerosis and a positive Wassermann reaction (Cohen and Jones).

Apart from trypanosomiasis, in which auto-agglutination is said to occur in the large majority of cases, the literature contains references to only one or two cases of the above conditions in which auto-agglutination was found, and some of these are doubtful. One of us (H. C.) has examined the bloods from 300 individuals since the occurrence of our case, but not one showed the marked auto-agglutination found in S. G. Those examined included 11 cases of pernicious anæmia—6 with subacute combined sclerosis, 4 cases of cirrhosis and syphilis of the liver, 3 cases of hæmolytic icterus, and many severe secondary anæmias. Forty of these cases were associated with a positive Wassermann reaction. We must conclude that auto-agglutination is thus a rare phenomenon, not constantly associated with any pathological state.

The daughter of Clough and Richter's patient [1] showed auto-agglutination in her blood. They suggested that since it was present in both mother and daughter, the phenomenon is an hereditary peculiarity. The only living relations of our patient, an elder brother and his son, showed no auto-agglutination, both of them being normal members of group IV. That auto-agglutination can be acquired is shown not only by its very frequent occurrence in trypanosomiasis, but also by the experimental work of Rous and Robertson,[14] who were able to induce auto-agglutination in rabbits by the repeated withdrawal of moderate quantities of blood.

In view of this experimental work we examined the blood of the following five donors:—

1. R. H. P., who between June, 1921, and August, 1924, had on each of six occasions given one pint of blood.
2. T. H., who between February, 1922, and July, 1923, had on seven occasions given one pint of blood.
3. W. L., who had in January, 1921, also in May and June, 1924, given one pint of blood.
4. W. H., who had in March, 1923, given one pint of blood.
5. W. H. E., who during the past three years had almost weekly given 20–50 c.cm. of blood for experimental purposes, and in July gave one pint of blood as a donor.

All these cases proved negative, no trace of auto-agglutination being found.

Of the mechanism of production and the chemistry of the auto-agglutinin we are ignorant. Its occurrence in anæmias has led to the suggestion that the auto-agglutinin results from the inoculation of the organism with the products of disintegration of its own erythrocytes, but this seems negatived not only by the very rare occurrence of auto-agglutination in anæmic states, but also by the impossibility of experimentally producing an auto-agglutinin in the blood of an animal by injection of its own red cells.

Another suggestion, that the auto-agglutinin develops in direct response to the stimulus of a pathogenic agent, is of interest in view of the similar protozoal ætiology of trypanosomiasis, relapsing fever, and syphilis, conditions in which auto-agglutination has been clinically described. The increased acidity of the blood said by Nierenstein [15] to occur in trypanosomiasis has been suggested by Breinl and himself to be the cause of auto-agglutination in that disease.

Can auto-agglutination be looked on as part of the body's resistance to disease? Since the phenomenon does not occur at body temperature, any effect it will exert is probably at the surface. Its only value here would seem the diminution of bleeding from small wounds by plugging the vessels with agglutinated cells, and thus preventing the further impoverishment of the blood volume in severe anæmias.

Practically recognition of the phenomenon of auto-agglutination may account for some of those cases, which, when grouped by the glass-slide method with the sera of groups II. and III., are said to show a change in group from IV. to I., when typed at a later date. Thus, had S. G. been tested by this method, he would have been called group I., because his own serum would agglutinate his erythrocytes even when mixed with serum of group II. or III. The consequences of transfusing a patient with blood from a donor who shows auto-agglutination is not likely to have serious effects, provided the blood be slowly injected, since the body temperature prevents the occurrence of the auto-agglutination.

Whilst, therefore, the practical advantages which result from a study of auto-agglutination in human blood seem small, its scientific interest is considerable.

Note.—Since the above paper was written a further case of auto-agglutination in pneumonia is recorded by E. Claveaux and Pérez Sánchez.[16] The phenomenon was noticed during convalescence from the disease. The acute attack had been treated with injections of patient's own blood.

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Clinical and Laboratory Notes.

A CASE OF DUODENAL ULCER IN AN INFANT.

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DUODENAL ulcer is regarded as a rare condition in infants, the diagnosis of which is difficult and seldom made during life. Dr. Donald Paterson,[1] in a review of the literature, states that of 100 reported cases there were only three in the United Kingdom, and to these he adds two of his own. The following case, therefore, which occurred at the Queen's Hospital for Children, seems worthy of record.

R. C., a male infant aged 5 months, was admitted on Nov. 1st, 1922. He was the first child of young healthy parents, and there had been no previous miscarriages. He was a full-time child and had been bottle-fed on various foods, but never throve except during his third and fourth months. Before coming to hospital he had been attending a welfare clinic, where his feeds were carefully regulated. There had always been a tendency to vomiting, and his feeds had been reduced in amount to 1 oz. every two hours, and he usually vomited a little of each. He had screamed after food until a few days before admission. Flatulence and constipation were very troublesome.

Condition on Admission.—He was a small wasted child, weighing 7 lb. 13 oz., with no obvious organic disease. He continued to be constipated and vomited slightly at times, generally after feeds, and had lost 5 oz. in weight by Nov. 6th.

On the evening of the 8th he vomited bright blood-stained fluid and was collapsed. A stool seen at this time had some melæna-like staining. The next day he seemed well till evening, when he suddenly collapsed and died.

Post-mortem Examination.—A punched-out ulcer was found in the first part of the duodenum, situated on the posterior wall about ¼ inch from the pyloric sphincter. It

was about three-eighths of an inch in diameter, irregular in shape, with slightly undermined edges. The floor consisted of submucous tissue on which could be seen a small vessel from which the bleeding had occurred. There was no thickening and very little evidence of inflammatory reaction of the surrounding structures and no peritonitis. Altered blood was present in the lower part of the ileum, and there was slight injection of the Peyer's patches, but otherwise nothing abnormal was found.

I am indebted to Dr. C. Alice King for permission to publish the case and the accompanying photograph.

A CASE OF INTESTINAL OBSTRUCTION COMPLICATING PREGNANCY.

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THE following case seems to be of sufficient interest to justify its being recorded.

Mrs. L., aged 27, was operated upon in 1916 for acute pyosalpinx with pelvic abscess on the right side. The right tube and ovary were removed and the abdomen drained. She made a good recovery, and three years later gave birth to a child without any complication.

I was asked to see her on Feb. 12th last, her doctor having diagnosed acute intestinal obstruction. She was now again pregnant, about seven months. Until 36 hours before I saw her she had been in good health. The present illness had commenced with acute pain in the right iliac fossa; she had vomited immediately, and vomiting had been incessant ever since. The bowels had not been opened since the beginning of the illness despite aperients and enemata. The temperature was 98° F., pulse 120.

On examination the abdomen presented a linear scar of the previous right rectus incision. The uterus, which reached the level of the umbilicus, was pushed well over to the left side by a rounded tympanitic swelling occupying the right iliac fossa. The upper abdomen was also distended, and peristaltic movements were observed.

Operation.—She was at once removed to hospital, where I opened the abdomen through an incision parallel to and a little outside the previous one. It was then found that the tympanitic swelling referred to above was caused by a coil of distended small intestine which was strangulated between a stout peritoneal band and the uterus, the band passing from the right broad ligament to be attached to the uterus at the site previously occupied by the utero-tubal junction. On relieving the strangulation I found the coil to consist of the last 18 inches of the ileum, the ileo-cæcal valve having escaped inclusion by half an inch. The gut was in such poor condition, and I doubted its viability so much, that I judged it safest to resect. This was done, the ileo-cæcal valve, which was somewhat œdematous and ecchymosed, closed, and an end-to-side anastomosis of ileum and cæcum performed.

The patient made a good recovery and the pregnancy continued to full term.

The peritoneal band was almost certainly a product of the old pelvic inflammatory trouble of six years ago. It appears most likely that while the uterus remained normal in size the band was lax, but with the rise of its uterine attachment during pregnancy it became taut and so an agent of strangulation. It is somewhat remarkable that it caused no trouble during the previous pregnancy.

A BILATERAL TUBERCULOUS INFECTION OF THE SUBMAXILLARY SALIVARY GLANDS.

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LATE TUBERCULOSIS MEDICAL OFFICER, SOUTHAMPTON;
AND
A. MASSEY, M.B., D.P.H. LEEDS,
ASST. M.O.H., SURREY C.C.

THIS condition is, perhaps, of sufficient rarity to warrant the description of a seemingly typical case, seen recently at the Southampton Municipal Dispensary.

The patient, a woman, aged 32 years, suffered from pneumonia in September, 1922. First seen at the Municipal Dispensary on Dec. 27th, 1922, when the following

Bilateral tuberculous infection of submaxillary salivary glands.

symptoms were elicited—viz., cough, expectoration, shortness of breath, lassitude, poor appetite, and vague pains in chest. Physical examination on that date revealed extensive tuberculous disease throughout the left lung, with cavitation at its apex. The upper lobe of the right lung was also involved. There was no enlargement of glands of neck; hypertonicity of the sternomastoids was noted, and the tonsils appeared normal. In the sputum were many tubercle bacilli. Weight was 6 st. 3¾ lb.

Patient was admitted to Borough Sanatorium on Jan. 4th, 1923, and discharged therefrom on June 11th following. During the whole of this period pyrexia was a notable feature; no improvement was effected in the lung condition, and weight was 5 st. 12 lb. on discharge. Since then the lung condition has become progressively worse, and repeated sputum examinations have all proved positive. Some six weeks prior to discharge from sanatorium the patient first complained of a small swelling on each side of the under surface of the lower jaw. The swellings slowly enlarged, until they assumed the conspicuous proportions shown in the photograph, taken on March 24th, 1924. The swellings are symmetrical, hard, and somewhat irregular on palpation, and tender to firm pressure. They are essentially chronic in character. There is no enlargement of lacrymal or parotid glands; the teeth are perfectly sound, the throat and tongue present a normal appearance, and the Wassermann reaction is negative.

A diagnosis was made of tuberculous infection of submaxillary salivary glands.

Medical Societies.

HUNTERIAN SOCIETY.

A MEETING of this Society was held on Oct. 20th, when Mr. H. W. CARSON gave his Presidential address, entitled

THE WATERSHED OF MEDICAL PRACTICE.

He took as his theme the factors influencing the decision as to whether, in the treatment of any patient, operative or non-operative measures should be adopted—factors as slight sometimes as the pebble's edge or slanting stone which may decide the course of a stream The decision as to which path to choose had become more and more difficult as the science of medicine and surgery had developed. It was not long ago when at our hospitals medical and surgical cases were so well differentiated that they could be, and were, sorted out without difficulty by the porter in the casualty department. Nowadays this work had to be done by a skilled physician trained to make rapid diagnosis, and even then references to other departments are common. The scope of abdominal surgery had been immensely increased, and it was here chiefly that one saw the conflict between the operators and the non-operators. Not without a struggle did the physicians relinquish the acute abdominal patient. Mr. Carson said that in his own student days these cases were all admitted under the physicians, who might or might not invoke the aid of their surgical colleagues. It led, of course, to delay and loss of life, and gradually, as operation began to be accepted as the only treatment for these abdominal emergencies, the surgeon was summoned more and more quickly, and eventually, with a great wrench, the acute abdominal case was admitted under the surgeon. In the treatment of the myriad surgical diseases which give rise to indigestion, again, the surgeon had thrust forward a formidable salient. The advance had not been without its serious failures and withdrawals. The attack started with the discovery that the appendix might be responsible not only for the gravest forms of peritonitis, but that in its more or less quiescent stages it could account for much ill-health, not only in the abdomen, but elsewhere. Then followed a discreditable period when appendicectomy was exploited to such an extent that even the lay press ridiculed it.

Diseases of the Intestinal Tract.

The next important move was into the treatment of diseases of the stomach, where the advent of the surgeon did much to sweep away the fog which had settled around the word "indigestion." He came at the right moment, at the time when the biochemist and the radiologist were racing to his help. It was indeed a happy conjunction. But here again the operation of gastro-jejunostomy was hailed as a panacea, and even to-day the memory of the unfortunate results which followed the performance of this operation in unsuitable cases led occasionally to a refusal to adopt it in some cases where it would be the ideal treatment. A little later all ills were ascribed to defects in our "cesspool" system of intestinal drainage and our teeth were all condemned, with the result that short-circuiting and colectomy were done indiscriminately and teeth were extracted by the million. But even apart from these extreme cases there were conditions about which there was an honest difference of opinion. For example, a patient was sent to Mr. Carson by a medical man, with a diagnosis of gall-stones. With this diagnosis he agreed, and an X ray picture showed the stones quite clearly. He advised operation, but the patient wished first to consult a distinguished physician. The physician agreed with the diagnosis, but deprecated an operation, since in his opinion the attacks, if they recurred, would yield to simple treatment; in short, he advised the patient to put up with the slight inconvenience which these attacks might entail. Here there was a curious variation of opinion. Surgeons were convinced that a residual gall-stone was a perpetual menace; serious complications might occur at any moment, and experimental evidence proved gall-stones to be an exciting cause of cancer of the gall-bladder. One could only believe that the physician for some reason had come to the conclusion that the risk of operation was so great in this case that it was better to chance the complications and put up with the disability. The treatment of duodenal ulcer was another problem in the solution of which surgeons and physicians differed. In the case of chronic gastric ulcer there was less divergence of opinion, and in Mr. Carson's opinion operative treatment was steadily gaining ground. He thought this could be explained by the serious disability incurred, the rarity of quiescent periods of good health, the very serious and crippling complications, and the very real menace of cancerous degeneration. But in one complication of chronic gastric ulcer surgeons themselves disagreed as to the wisdom of operation, that is, in the treatment of severe hæmorrhage. At the present time there was a majority against operating for the control of hæmorrhage. There was plenty of evidence that such an operation might have to be very extensive—for the much-extolled gastro-jejunostomy was valueless in such cases—and had a heavy mortality, while, on the other hand, the actual mortality from hæmorrhage was known to be small. It seemed the better practice to tide these patients over the hæmorrhage and to do the curative operation later.

Exophthalmic Goitre.

Another disorder in which surgery held out an increasing chance of cure was exophthalmic goitre, and here was perhaps the ideal association of physician and surgeon. It had long been recognised that exophthalmic goitre was very resistant to medical treatment, and when the subject was thrashed out at the Royal Society of Medicine in 1912, a mortality under medical treatment of 25 per cent. was accepted; at most 10 per cent. were cured, and that only after years of invalidism. The surgeons estimated the mortality of cases treated by operation at 5 per cent. or less, and the prospect of cure at between 70 per cent. and 80 per cent. Since then more work had been done, and it was beginning to be recognised that there was a prospect of cure by medical means if treatment could begin in the first six months of the illness. Therefore, surgery was not employed during this period, nor was it considered wise to operate during an exacerbation. Here there was no antagonism between operators and non-operators, but a realisation that a disease might require different treatment at different stages of its progress. There were, however, certain difference of opinion, not in surgical versus medical treatment, but in non-operative versus operative treatment of a purely surgical disease. Not very long ago every surgical ward had

in it patients who had been operated upon for tuberculous disease of the bones or joints. Where were those cases now? They had learnt by bitter experience that operation was not the way to treat any but a quite small minority of these cases, and, with the increase of institutions where time could be given to conservative methods, such as the Treloar Hospital at Alton, a new hope was arising for these unfortunate victims of surgical tuberculosis. Many were being restored to health with useful limbs who formerly would have been condemned to mutilation or even death.

Physicians and Surgeons.

Reverting to his text, Mr. Carson proceeded to consider what pebble's edge influenced one doctor to become a physician and another to become a surgeon. The distinction between the two branches of our science was becoming less pronounced. It was now accepted that the problems of the surgeon were no less complex than those of his medical colleague, and that the surgeon was not merely the craftsman who exercised his art at the bidding of the superior branch of medical learning. It was to be hoped that the apparent antagonism between physician and surgeon might merge into a real collaboration of medical and surgical science, since the same disorder might require at its different stages the most diverse treatments.

SOCIETY FOR THE STUDY OF INEBRIETY.

COCAINE ADDICTION.

THIS Society held a meeting at the house of the Medical Society of London on Oct. 14th. Sir WILLIAM WILLCOX, the President, was in the chair.

Prof. W. E. DIXON read a paper upon Cocaine Addiction. He first referred to the immemorial practice among the Indians of the West of South America of taking coca leaves as a stimulant in mental and physical fatigue, a practice which survived to this day amongst the natives of Peru. General Miller used coca leaves for his army in his campaign of 1824 and was much impressed by their value, whilst Montegazza, in 1859, stated that he obtained great muscular and mental energy from a small dose of an infusion of the leaves and "unthinkable beatitude" from a larger one. No such pleasant effects had followed an injection of 1½ gr. of cocaine in the case of the speaker, but, on the contrary, he suffered frontal headache, excitement, increased reflexes, and insomnia. Others had recorded similar experiences with cocaine, but it was possible that the alkaloid did not reproduce the whole effect of the fresh coca leaves.

Action of Stimulants upon the Central Nervous System.

Cocaine had an action on the central nervous system which corresponded with a stimulation of the whole cerebral cortex, so that after injection into animals convulsions could be produced by electrical stimulation of the cortex, which were abolished by severing the crura cerebri. The dose per unit of body-weight necessary to produce convulsions in animals was proportioned to the degree of development of the cerebral hemispheres. In man the exaltation of feeling and increased muscular and mental vigour were due to the stimulation of the cerebral cortex. Other drugs were known which produced similar effects; absinthe, picrotoxin (a fish poison), camphor, atropine, and nutmeg were examples. Devotees of absinthe became restless, excitable, tremulous, and ataxic, and sometimes suffered from delusions and epileptiform convulsions with, later, permanent derangement of intellect, just as occurred with cocaine. Atropine, although having similar effects, did not, as a rule, give rise to a "habit" on account of its unpleasant side-effects, while the action of caffeine was much more mild and prolonged and was chiefly confined to the higher intellectual centres, the motor areas being rarely influenced.

Acute Cocaine Poisoning.

As a rule, ¼ gr. of cocaine produced little effect and 1½ gr. was well tolerated by ordinary persons. The fatal dose varied from 8 to 23 gr., but as with other drugs which acted upon the central nervous system the effect of cocaine in different individuals was uncertain. Death was due to shock from sudden paralysis of the central nervous system, for while the effect of a small dose was to stimulate, over-stimulation by a large dose produced the reverse effect—namely, paralysis. This was an everyday maxim which was not sufficiently appreciated in the case of collapse and death from the absorption of cocaine in a susceptible person. In every case of death from the use of cocaine or similar substances as local anæsthetics, the symptoms were strikingly like those produced experimentally in animals. Prof. Dixon added two comments: first, that death was always due to sudden absorption; when steps were taken to render absorption slow, as by the use of a tourniquet, the alkaloid was apparently adsorbed locally to a great extent. This was the reason for the addition of adrenalin to cocaine solutions for local anæsthesia; the principle was a good one, though adrenalin actually added to the toxicity of the solution when it was absorbed rapidly. The second comment was that cocaine was much more dangerous in strong than in weak solutions, for the latter favoured innocuous adsorption into the tissue colloids. It was well recognised that tolerance to cocaine could be rapidly established by practice in man, so that a dose of 20 gr. could be taken without ill-effect after a month. This effect was confined to man; in laboratory animals such tolerance could not be established.

Effect of War Conditions on the Cocaine "Addict."

Before the war cocaine was rarely used by the "addict" except in conjunction with morphia. Generally the morphine habit was contracted first; more rarely the addict first became enslaved to cocaine. The reason for this was that the symptoms of one drug habit were relieved by the other; some physicians even prescribed cocaine as a means of escape from the morphia habit. In many cases the cocaine habit was contracted from the legitimate use of the drug as a nasal spray in hay fever or asthma. The habit was never common in this country, but was more prevalent in America, France, and even India; in the first country it was a social problem even before the war, and was rapidly increasing in the numbers of its victims. It had been stated that an alarming increase had followed the introduction of prohibition in America, but Prof. Dixon pointed out that the increase had been a steady one over many years, and though doubtless affected by post-war conditions, could not be fairly attributed to the sudden withdrawal of alcohol. In India cocaine taking was confined to opium or ganja addicts, by whom cocaine powder was taken mixed with betel leaves and slaked lime.

A change occurred in the early days of the war. Cocaine users, who took the drug as a rapid intoxicant, became common in Paris where the alkaloid could be readily obtained from habitués of cafés and music halls. The drug was taken either by sniffing the powder or mixed with an alcoholic beverage. Many of the persons who took cocaine were not true addicts, but resorted to the drug only rarely and upon special occasions at "cocaine debauches," running the risk of acquiring the habit without actually doing so. None the less, such persons were a danger to themselves and others, and constituted a serious problem in State medicine. In the speaker's opinion they should be isolated like cases of infectious disease, thus removing a source of infection of others with the cocaine habit.

Once formed the cocaine habit was perhaps the worst of all drug habits, for it led to more rapid mental, moral, and physical degradation than the depressant drugs such as morphine. The morphinist retained some desire for freedom, but the cocainist cared for nothing, his mind was completely bemused.

Cocaine induced insomnia, loss of appetite, dyspepsia, and diarrhœa, and sometimes delusions and deafness. A delusion of feeling a foreign body—sand or worms—under the skin was diagnostic of cocaine. In spite of all this the habit was comparatively easily cured, for even when 10 to 30 gr. a day had been taken, the drug could be completely cut off at once without any ill-effects, whereas a similar withdrawal in the case of the heroin habit would certainly jeopardise life.

Characteristics of Drug Addicts.

Drug addicts were not normal people who had availed themselves of opportunities for indulging in drugs—for normal persons did not derive pleasure from their first experience of cocaine. In 1906 Sir Clifford Allbutt and the speaker, in a joint article, defined the people who took an immediate pleasure from drugs as "neurotics." Quickness and sensibility, acute perception, and alert muscular reaction were qualities of high breeding, but they became morbid when developed in excess in the lower ranges of sensibility without check from the higher controlling centres. When Laséque said, "It isn't everybody who can become an alcoholic," he meant that there must be a pre-existing mental state. The same was even truer of drug takers than of alcoholics, and it was apparent to all who had much experience that drug taking was rather a symptom of a certain type of mental condition than a disease in itself. Proof of this lay in the fact that those who contracted the habit as a result of the use of a drug in disease were much more readily cured than other addicts. The Americans were now discussing whether drug taking was a medical issue or a police problem, since 98 per cent. of the "police cases" of drug addiction were associated with crime or a criminal environment. But the chief of the New York "Narcotic Police" pointed out that drug addicts made poor criminals, being lacking in judgment, self-control, and will power. To treat them all as criminals would, therefore, be as unfair and unsuccessful as was the mediæval treatment of lunatics. The cocaine habit was spreading over the world; it had appeared in France, Germany, Italy, Spain, and England, but was less common in Europe than in America and the East. The narcotic division of the New York police had arrested 8174 drug takers during 1923, of whom 95 per cent. used heroin, either alone or in conjunction with cocaine.

Treatment of the Drug Habit.

Drug addicts fell into two classes, a smaller class who contracted the habit from the legitimate use of a drug to cure pain in disease, and a larger in whom addiction was a sign of neurosis. The first step in treatment was to restore the patient to physical health. The problem of relieving the mental damage then arose, for if the patient were allowed to return to his old associations relapse was certain. Few addicts would come for treatment as long as a supply of the drug was available or until the drug had lost its effect. They might then allow themselves to be "cured" in order to renew the habit with fresh pleasure.

In conclusion, Prof. Dixon made the following propositions: (1) That prosecution of cocaine traffickers should be carried out by all means at our disposal; (2) some form of international control, to prevent illicit importation of cocaine or coca leaves, should be established; (3) as most of our cocaine is prepared in German laboratories, this supply should be controlled at the source; (4) that information should be spread of the gravity and danger of the use of narcotics not only to medical men and medical students, but also to members of the teaching profession.

Discussion.

Dr. H. H. DALE had been told that cocaine taking was a social habit and not, as in the case of morphine, a secret vice, for cocaine was taken not to combat insomnia, but to produce it. Hence cocaine taking was limited to big cities, where it was taken to stimulate the flagging appetite for pleasure.

Dr. A. J. COPELAND discussed the action of a number of cocaine substitutes, including butyn and novocaine, and pointed out that in appropriate doses all produced convulsions in animals exactly similar to those produced by cocaine. From his own personal experience of one of these drugs, he considered that they were just as likely to give rise to a "habit" as cocaine itself.

Dr. W. C. ADAMS was interested in the suggestion that the effects of coca leaves and of cocaine might be different. It was possible that the inherited psychology of different races might have something to do with the different effects upon them of the coca leaf.

Dr. HARRY CAMPBELL pointed out that a non-toxic substitute for cocaine would be most useful, and read a letter from Dr. Francis Hare to the effect that the cocaine habit was in his (Dr. Hare's) experience comparatively rare in this country. Dr. Campbell suggested that the "neurotic" temperament which Prof. Dixon had said was at the root of the cocaine habit might be due to a condition of the blood, and pointed out that certain habits, such as alcoholism, often exhibited a degree of periodicity. Such a periodicity had been noticed in some cocaine takers.

Dr. O. INCHLEY felt that the outlook was not a very happy one if the habit was due to a neurotic mental condition, since that was inborn and not readily affected by any treatment.

The Rev. H. GOYEN (Victoria, Australia) said that in Australia they had lessons in schools and colleges on the dangers of alcohol and drug habits, but that more harm than good was sometimes done by over-exaggeration of the dangers. He thought that the real facts as to the causes of the increase in drug taking in America should be made known, as much capital was being made of the increase by those who opposed prohibition. His impression was that cocaine addicts very rapidly became hopeless social derelicts.

Dr. ELEANOR LOWRY said that it had been suggested that in some cases of murders by members of the Irish Republican Army the men entrusted with the deed had been "doped" either with alcohol or drugs. She believed that, on the contrary, only men who were known to be free from any such vice were selected for such work.

The PRESIDENT remarked that no cases of murder by cocaine had come under his notice, though suicide by cocaine was not uncommon. In cases of acute cocaine poisoning the stomach should be washed out with a solution of potassium permanganate. The prognosis in the case of cocaine was fairly good if this treatment were instituted within an hour of the taking of the drug, since the alkaloid was relatively unstable and easily broken down. The use of cocaine as a local anæsthetic was by no means free from danger—three fatal cases had occurred at his own hospital following the use of cocaine in the urethra. He was surprised that more accidents had not occurred in nose and throat practice, where solutions as strong as 10 per cent. and even the pure powder were occasionally used.

Prof. DIXON replied briefly.

LONDON DERMATOLOGICAL SOCIETY.

AN ordinary meeting of this Society was held on Oct. 15th at St. John's Hospital, with Dr. KNOWSLEY SIBLEY, the President, in the chair. Twenty Fellows and visitors were present. The report of the pathological subcommittee on a case of erythrodermia, previously shown, was read. The committee unanimously considered the case to be one of lymphatic leukæmia. Pathological specimens were shown by Dr. A. Knyvett Gordon, clinical cases by the President and by Drs. W. Griffith and S. R. Kapoor. The cases and specimens were discussed by the President, and Drs. Griffith, Kapoor, Howard Humphris, J. A. A. Orlebar, R. F. Fagan, and Knyvett Gordon.

ROYAL SOCIETY OF MEDICINE.

SECTION OF DERMATOLOGY.

THE first sessional meeting of this section was held on Oct. 16th, under the presidency of Dr. E. G. GRAHAM LITTLE.

Dr. PROSSER WHITE read a paper entitled

Bakers' Eczema: A Clinical and Experimental Inquiry.

He said that in France bakers' eczema was unknown, while in regard to America a long bulletin issued by the United States Government did not mention the condition. It had been known for many years in this country that cases of eczema occurred from time to time among persons engaged in the making of bread and confectionery, and the object of the inquiry he set out to make was to ascertain whether this skin condition was attributable to the flour used or to any particular ingredient or "improver" incorporated with it. This dermatitis seemed to trouble confectioners more than it did bakers. When 10 per cent. of yeast was employed in bread-making, it was suspected that this might be an agent in causation; but it appeared that workers in dried yeast did not show any particular incidence of eczema. Neither did water seem to be a cause, though in the experiments the addition of water was needed to set up the dermatosis. Another question was as to whether the process of bleaching the flour was responsible for the condition of the skin. Acid calcium phosphate was largely used in the making of confectionery to replace the old tartaric acid. Or was the eczema due to protein sensitisation? Dr. White suggested that it would be interesting to inquire whether people in these trades who claimed compensation had a primary morbid condition of the skin, so that the rash was merely incidental and not caused by their occupation.

The bleaching of the flour was carried out with nitric oxide, sometimes with chlorine. The so-called improvers and activators increased the hydrogen-ion concentration in the dough. Millers introduced 1 oz. of salox—an ammonium sulphate and ammonium persulphate preparation—into a 280 lb. sack of flour—i.e., 1 part in 4000, and acid calcium phosphate, 1 part in 290. The kneading of a full batch of bread occupied 30 to 45 minutes, and the first stage, the dissolving of the salt, was always done by hand. It appeared that for the salt to act as a definite irritant it was necessary for it to be on the skin in the form of crystals. Two men and a woman subjected themselves to experiment on this and other points, and it was found that an erythematous rash appeared only when the salt was retained on the arm in crystalline form. Into confectionery, of course, sugar entered largely, but in healthy persons engaged in this industry it did not appear to be a cause of dermatitis. Observations were made by Dr. White, by means of the three volunteers already mentioned, concerning various kinds of flour, and flours which had been treated in divers ways. As a general result of three days' tests, irritation of the skin could be declared to be uncommon. In some cases when the paste was wet there were eruptions, but they remained confined to the site of application, and treatment quickly healed them. Some irritation followed the application to the skin of acid calcium phosphate, especially if incorporated in untreated "branny" flour. It was rare for the baker or the confectioner actually to handle dough for more than two hours daily.

It would be interesting to learn, he said, whether bakers and confectioners suffered from eczema proportionately more than did the general population. The figures he was able to glean showed they did not, and he was not in a position to say that there was any rash peculiar to the trades in question. Sufferers from eczema should not be allowed to work at food industries while they had the disease, especially as the workers in these trades objected to the use of rubber gloves.

Discussion.

Dr. ALLAN PARSONS said that two years ago he was deputed by the Ministry of Health to investigate the conditions associated with an epidemic of "bakers' itch." The conclusion he arrived at was that a great number of the cases of this disease, so-called, could not truly be described as instances of dermatitis due to baking. Many of the cases he saw could be accounted for in other ways. Also, the majority of the supposed cases occurred among employees in shops which were not equipped with machinery, and whose hands and arms were therefore immersed in the dough for a good part of each day. A third point was that a number of the patients had had to work at some time with sugar. He did not feel he could go so far as Dr. White in saying there was no rash peculiar to these trades; but he felt that the case put forward on behalf of the bakers had been a good deal exaggerated. He believed that further investigations were being demanded.

Dr. L. A. PARRY said that he also had made experiments on this subject, in the person of a man, aged 63, who had suffered on so many occasions from bakers' eczema that he was put by the firm on to work in which he did not come into contact with the dough. He had not had any further attacks of the disease since that change was effected. This man was given two separate bowls of flour, in one of which was a preparation of ammonium sulphate and ammonium persulphate (salox) 1 in 4000, and in the other only flour and water. These were plastered on hand and forearm separately and left there for 15 to 30 minutes; and the same was done for six consecutive days, being removed by means of dry flour in the ordinary way. Neither arm at the end of that time showed any sign of irritation beyond a transient redness. A week later there was no trace of any abnormality in the man's skin.

LONDON ASSOCIATION OF THE MEDICAL WOMEN'S FEDERATION.

A MEETING of this Association was held on Oct. 14th, Miss M. CHADBURN, the President, being in the chair.

Dr. STENHOUSE WILLIAMS opened a discussion on

Clean Milk and its Production.

He pointed out that the milk industry had had little help or guidance from the medical profession in the problem of producing clean milk. Only those actually in the industry could really appreciate the difficulties and work out a solution. Since the establishment in 1913 at Reading of the National Institute for Research in Dairying, under the auspices of the Ministry of Agriculture, efforts had been made and had proved successful in interesting the local farmers in the ideals of the institute. The chief trouble in milk production was dirt, and its abolition must be viewed on an economic basis. Berkshire farmers had proved to be receptive of new ideas involving asepsis, and six or seven years ago it was generally recognised that a better quality of milk was worth a better price. After the war, and after a considerable struggle, the principle was maintained that farmers were allowed to charge more for cleaner milk. At present three grades of milk were available: certified milk, bottled by the farm; grade A tuberculin-tested milk, bottled by the dealer to whom it was delivered in sealed jugs; and ordinary milk. Certified milk formed only 2 per cent. of the milk supplied in New York at present, and it seemed unlikely that it would ever be possible in America or in this country to supply it cheaply enough to create a large market. Grade A tuberculin-tested milk, however, could be produced at a price of only 1*d.* per quart dearer than that of ordinary milk. In New York 2 per cent. of the milk consumed was consumed fresh and 98 per cent was pasteurised. An alternative to pasteurisation was to press for tested clean milk which could be drunk without treatment, and Dr. Stenhouse Williams said that he

had made great efforts, with but limited success, to create a demand from doctors for such milk.

Mr. S. WHITLEY, chairman of the British Dairy Farmers' Association, emphasised the difference between the methods used in producing clean milk and those under which farming was carried on in the old days, and, indeed, was still carried on at farms where no effort had been made to raise the standard. The difference was comparable to that between modern aseptic operating rooms and the conditions under which Sairey Gamp worked. The steps taken to produce clean milk were as follows: First, the cowshed was kept clean, the cows were brought in, and the flanks washed and dried and udders washed and dried. The milker put on clean white overalls and washed and dried his own hands. Formerly, Mr. Whitley observed, cowmen used to wash their hands in the milk. Instead of wide-mouthed open milk-pails, covered pails were now used, a lip on the cover preventing dust which had settled on the cover from falling into the pail. The pail was then weighed, carried to the dairy where the milker without entering the dairy poured the milk into a tin receptacle. It was then cooled, churned, and sent in sealed cans to a retailer, who was also compelled to have a grade A T. T. licence. Surely these precautions were worth the 15 or 20 per cent. extra cost that the consumer had to pay. There was now keen competition among certain farmers to reduce the bacterial count in their milk. Milk consumption in this country was much smaller than in America, Canada, or Denmark. No single thing could benefit agriculture more than to persuade people to drink more milk. Last year over 160 farmers were producing higher grade milk, the supply then was much greater than the demand, but now more farmers were producing this milk, and Mr. Whitley understood that the demand was now greater than the supply. Many farmers were waiting only for the demand in order to start producing grade A milk.

Dr. AMY SHEPPARD asked what precautions were taken to keep the cows that did not react to tuberculin in health. A friend of hers had a herd of cows and took pride in the fact that two-thirds of them did not react; this was apparently a high proportion. Dr. Sheppard said that, in view of the large proportion of cows reacting to tuberculin, she herself would not trust untreated milk and would pasteurise all milk anyhow in country places. Would not keeping cows out of doors be a good plan?

Dr. WILLIAMS replied that cows were tested every six months and were inspected by a veterinary surgeon every quarter, and he considered that these precautions were sufficient. In many districts cows were kept out of doors.—Mr. WHITLEY said that there were certain disadvantages in keeping cows permanently out of doors, especially on wet land, but at least they could be kept in open yards and money could be spent on milking sheds instead of on cowsheds. As to the percentage of reactors many valuable results had been found. It was generally accepted that unless the udder was affected tuberculosis would not be transmitted through the milk. When the intestine or lungs was affected, however, the cow might be dangerous to other cows; in practice when a herd was once free it was found that only 1 per cent. or less than 1 per cent. of reactors were subsequently found.

Miss LOUISA MARTINDALE asked how the milkers' hands were cleaned to secure asepsis. Did they use rubber gloves, and was the same bucket and towel used by all the milkers?—Dr. WILLIAMS replied that sterile gloves were not used and hands were dried on ordinary towels. He did not think that any more stringent regulations were required.

Dr. R. GILLETT said that her children had been brought up on Moundsmere Manor milk and now refused to drink any other kind; presumably there was some noticeable difference in the flavour in really clean milk.

Mrs. FLEMMING, M.D., asked whether Dr. Williams would advise that those farmers who produce grade A milk should confine themselves to this kind of milk or whether they should aim at producing both kinds; now, apparently, cows which reacted to tuberculin tests were merely put into the other herd. Was this a satisfactory arrangement or should reacting cows be destroyed?

Dr. WILLIAMS said that at Reading reacting cows were killed. It was easy to adopt a high standard and say that this was essential, but he was not convinced that this was so. It might be economically very hard on the farmer and would interfere with supply of good milk, for the farmer might be unable to afford to produce it. In the old days, and in some places now, it was impossible to get reliable milk. Now the public had an option and this might be a very good thing. In practice, if it were agreed that all reacting cows should be slaughtered, the farmer would have to be compensated and an economic basis would not then be maintained.

Dr. R. JORDAN asked whether, if the reacting cow was followed to the slaughter-house, active tuberculosis was necessarily found.

Dr. WILLIAMS explained that was one of the troubles; unfortunately, it was impossible to foretell this.

Dr. CHODAK GREGORY was interested in the economic side of the question since children in London did not get nearly enough milk. If, indeed, grade A milk was only 1*d.* a quart dearer that would not be bad, but surely it was a good deal more than 1*d.* a quart dearer in London?

Dr. WILLIAMS said that grade A milk could be bought in London at all prices. At Lord Rayleigh's dairies it could be bought for 2*d.* more per quart, at other places up to 50 per cent. more. In hospitals and welfare centres a start might be made in creating a demand which would bring down prices. In answer to the Chairman, he said that St. Bartholomew's Hospital was supplied with grade A milk.—In answer to a question whether this hospital was satisfied with the keeping qualities of this milk, Mr. WHITLEY replied that some complaints had been received indirectly. On investigation it had been ascertained that the milk had been kept too hot, had reached a temperature of 74° F., whereas it should be kept at 60° F. It must always be realised what an exceedingly delicate product milk was.

Dr. I. LANE spoke of conditions in Sydney and asked whether gastro-enteritis was less prevalent at Reading than elsewhere in this country.—Dr. WILLIAMS could not give information on that point, but referred her to the local welfare centres.

Dr. ENID MOORE had been feeding her baby on certified milk, but was concerned in the summer because 36 hours elapsed between the time of milking and the time of the 6 o'clock early morning feed. This seemed a very long time. She had been advised by her dairy to use instead their nursery milk which was pasteurised on collection. This advice was to the economic disadvantage of the firm, since certified milk cost 1*s.* 2*d.* and nursery milk only 8*d.* per quart; as a matter of fact, the cream contents of the certified milk was less than that of the nursery milk. She did not think that inspection every three or six months was sufficient to guarantee that the cows had not been infected between the inspections. She asked whether Dr. Williams would recommend consumers to pasteurise certified milk if 36 hours were to elapse between milking and consumption.—Dr. WILLIAMS replied that a high cream line was proof neither of vice nor virtue in milk. He did not think it was necessary to pasteurise certified milk under the circumstances mentioned.

Dr. A. HUTCHINSON spoke of the great difficulty in obtaining grade A milk in certain London districts and of the great variability of prices. What price should be quoted for mothers as reasonable?—Dr. WILLIAMS said that the price ought not to be more than 2*d.* per quart more than ordinary milk, but there was no law preventing dairymen from charging what they could get.

Dr. E. CASSON thought that the distribution by motor lorries had worked so well during the railway strike that perhaps a plan could be devised to continue this system.—Dr. WILLIAMS said that a solution to the problems of distribution had not yet been found.

Reviews and Notices of Books.

TEXT-BOOK OF PATHOLOGY.

By ROBERT MUIR, M.A., M.D., Sc.D., F.R.S., Professor of Pathology, University of Glasgow; Pathologist to the Western Infirmary, Glasgow. London: Edward Arnold and Co. 1924. Pp. 774. 35*s*.

A TEXT-BOOK of pathology by a teacher of the eminence and experience of Prof. Robert Muir must necessarily have a much wider appeal than to the student for whom it is primarily intended. In particular, other teachers of pathology will read it with interest not only for its subject-matter but also because it reveals the point of view of one of the acknowledged leaders of his profession. For, as the author states in his preface, pathology has become so extensive that a selection of subjects is necessary if a students' text-book is to be kept within reasonable limits; and it is in this selection, this choice of what to leave out, that an author's professional philosophy is laid bare.

As might have been expected, Prof. Muir's book is admirably conceived and well balanced. It deals chiefly with the structural changes in disease, since it is in these that the whole basis of pathology must lie; but the experimental and chemical sides are not neglected, and the effects of morbid lesions upon function are constantly insisted upon. Such subjects as systematic bacteriology, parasitology, tropical diseases, diseases of the special senses and of the skin are not specifically treated; and no more space than is absolutely necessary is devoted to congenital abnormalities. The first 200 pages are devoted to general pathology, to disturbances of nutrition and of the circulation, inflammation, repair and hypertrophy, infection and immunity, and tumour formation. The rest of the book is concerned with special or systemic pathology, the results of disease processes on the structure and function of individual organs. Inasmuch as there are 433 figures included in the text it must be obvious that a good deal of condensation has been necessary, and yet this is not apparent. The author, knowing what he wishes to say, says it in the simplest language without circumlocution. Though helpful possibilities and theories are adequately discussed, he has little time for vague hypotheses; he is chiefly concerned with facts, and he does not hesitate to admit when these are insufficient for a true understanding of the subject. It is probable that many of his readers would have preferred a wider presentation of many subjects, for the author's individual opinion on debatable points and his criticism of work still in the making would have been invaluable. Guidance is badly needed in the interpretation of much of the modern work, that, for example, on infection and immunity. But such elaboration would have been beyond the scope of the book. It is hardly necessary to say that Prof. Muir's teaching is beyond reproach. In one or two minor instances, in his description of Paget's disease of the nipple, for example, it may be that he will be found to differ from other authorities; but for the most part his doctrine is as sound as its presentation. A word must be said about the illustrations. With a few exceptions, these are photographs, and many of them are exceedingly good. The microscopic fields illustrated are small and often of low magnification, so it has been possible to obtain perfectly clear and satisfactory figures. And the same may be said of the reproduction of naked-eye specimens. But there are illustrations—Nos. 16, 275, and 284, for example—which the student will find it difficult to interpret, and we could wish that more use had been made of drawings.

Prof. Muir has written a book which will, we predict, have an immediate success. The general practitioner who desires to keep abreast of modern pathological teaching cannot do better than turn to it; while the student will find it not only a safe guide to success in examinations, but a stimulating presentation of a subject upon which his final studies must be founded.

MASSAGE OF THE HEAD, FACE, AND NECK.

By OLIVE F. SANDS, Registered Member, Chartered Society of Massage and Medical Gymnastics; Masseuse to Savernake Hospital, Marlborough. London: The Scientific Press, Ltd. 1924. Pp. 62. 1*s*. 3*d*.

THIS little book is one of the pocket guide series of the Scientific Press. It is written by a qualified masseuse for the help of those who follow the same profession. For them the details of technique given in the first chapter should be unnecessary, while they are not sufficiently full to be of material assistance to others. The conditions dealt with in the manual are those for which massage of the head and neck is generally employed; the use of massage in the relief of insomnia might well find a place. It is a little unusual to find torticollis referred to as a painful condition, and although injury to muscle at birth is mentioned as a cause of the condition, no special description is given of its treatment. Massage twice or three times a day for 15 minutes seems to us excessive for a child. On the whole, however, the advice given is sound, and if a masseuse should find herself confronted with a case which she has been told to treat without specific instructions, and is in doubt as to how to proceed, she will here find suggestions which will guide her at least in safety.

MECHANO-THERAPEUTICS.

Collected Papers on Mechano-Therapeutics. By EDGAR F. CYRIAX, M.D. Edin. London: John Bale, Sons and Danielsson, Ltd. 1924. Illustrated. Pp. 472. 12*s*.

Dr. Cyriax has made a valuable contribution to the library of physical therapeutics by collecting his numerous communications to the medical press into one volume. He presents us with 65 original papers written in three different languages, and he gives a list of 16 other articles which are not here reproduced. The range of ground covered is extensive. The first 17 papers deal with treatment of the nervous system, the next 22 with bones and joints, 4 are devoted to anatomical study, 11 to the internal organs, while the remaining 11 are on various topics, including 4 on various aspects of work done during the war. The last paper on some points of priority in mechano-therapeutics is of interest, since it shows clearly that the names attached to certain recognised treatments are those of imitators rather than of originators. A full bibliography is attached to each paper.

The book has two serious drawbacks: First, the almost inevitable fault of repetition; secondly, that reference from one paper to another is made by name and not by reference to page or chapter. In this matter the index is of service, but even so, it is at times a matter of considerable labour to find the reference for which one is searching. The average medical man glancing through the list of contents and finding physical treatment advocated in the treatment of acute pleurisy, pneumonia, and diabetes, might feel disposed to lay the book aside as being too revolutionary to merit further attention. He will also find it difficult to accept the possibility of the displacement of the inter-vertebral discs, although a growing number of medical men place credence in minor displacements of the vertebræ and the symptoms which are alleged to arise therefrom. The time has not yet come when these things will receive general acceptance. Yet the work done on these lines by Dr. Cyriax has, in his hands, met with a considerable measure of success, and the need is for other workers to ascertain whether the claims made can be justified in their own experience. The first section of the book dealing with the treatment of the central nervous

system must inevitably meet with antagonism, as electrical treatment of flaccid paralysis will find many advocates, while Dr. Cyriax would have us rely on physical treatment. Scanty reference is made to the value of splintage in these conditions. But a priori considerations should not be allowed to detract from the value of researches into the little known ways of the sympathetic nervous system; if, for example, the victim of chronic constipation can really be relieved by restoring the function of the coccygeal ganglion, all other remedies must be at fault.

Dr. Cyriax is an enthusiast. It may not be possible to accept unquestioned all his observations, but if the publication of this book can inspire others to follow his lines of investigation, even if it is only to prove or disprove the results of his work, a definite advance will be made in medical knowledge.

HISTOLOGY OF TUMOURS.

An Introduction to the Histology of Tumours. By HAROLD A. HAIG, M.B., B.S., D.P.H., Lecturer in Pathology and Bacteriology, Welsh National School of Medicine. London: Henry Kimpton. 1924. Pp. 124. 7*s.* 6*d.*

IN his preface the author states that his book is designed for the use of students and working pathologists and, furthermore, that it has been his aim to avoid controversial matter. Unfortunately, in the present state of knowledge concerning the nature of tumours, the only refuge for the author who would avoid the introduction of conflicting views in a work of this sort is dogmatism, and dogmata are dangerous food for students, while it is to be hoped that "working pathologists" will have nothing to do with them. The descriptions of the commonly recognised and more or less intelligible tumours are clear and concise and should prove of value to the student. In the case of the more obscure neoplasms, such as those originating in the testis, the absence of any critical consideration of the various views as to their nature and origin detracts somewhat from the value of the work; an important group of new growths, the "mixed tumours" of Wilms, almost entirely escapes notice. However, the student will find much information clearly expressed in this inexpensive little manual, and will doubtless find it a help in the study of a difficult subject.

PEDIATRICS.

Physiopathologie de l'appareil digestif du nourrisson. By ENRIQUE SUNER, Professeur de Clinique infantile à la Faculté de Madrid. French translation by Dr. MATHÉ. Paris: Masson et Cie. 1924. Pp. 92. Fr.10.

THIS little book, which is introduced to French readers by Prof. Nobécourt, presents an account of the infant's digestive and metabolic processes in health and disease and of the essential principles of infant feeding. The section dealing with physiology is admirable, the work of recent years being clearly summarised in a small space. The metabolism of albuminoids is fully described, with special reference to Hamburger's work on absorption of colloids; considerable attention is also paid to basal metabolism and calorimetry. Pathology is dealt with rather less fully than physiology, but the subject is presented clearly and readably. The author's standpoint is roughly similar to that of Prof. Nobécourt; he does not subscribe to the views of Czerny or Finkelstein, but regards protein as a common source of digestive disturbance. The chapters on infant feeding will not meet with such general agreement as those on physiopathology. The author himself emphasises the effect of dissimilar climatic conditions on dietetic requirements, and this factor must be borne in mind. He gives the twelfth month as the normal time for weaning, and recommends the addition of starch to the diet of a breast-fed infant from the sixth month. The list of maternal indications for weaning is not particularly helpful, and contains the statement that mitral stenosis is usually congenital. The mixture which the author recommends for artificial feeding has a fat-content distinctly below that of human milk.

This book contains a considerable amount of valuable material; the addition of references would render it a really useful introduction to the study of infant metabolism.

Examination of Children by Clinical and Laboratory Methods. By ABRAHAM LEVINSON, B.S., M.D., Associate in Pediatrics, Northwestern University Medical School, Chicago. London: Henry Kimpton. 1924. Pp. 146. 18*s.*

IN this book the author has attempted to bring together all the procedures which may be employed, either at the bedside or in the laboratory, for the diagnosis of the diseases of children. Inasmuch as many of these procedures are the same both for children and for adults, it is inevitable that a work of this sort should encroach largely upon the domains of the ordinary text-books of clinical pathology. There are, indeed, sufficient differences in the interpretation both of clinical signs and of laboratory tests in children as opposed to adults to offer ample justification for the production of such a work, but it is the actual procuring of specimens of one sort and another for assay which offers the most serious difficulty in the examination of children from the laboratory standpoint. Dr. Levinson's descriptions of the technique for procuring samples of blood, urine, and so forth from babies form by far the most valuable part of the book and would alone constitute it a most useful aid to the pediatrist.

DIFFERENTIAL DIAGNOSIS.

Vol. II. Presented through an Analysis of 317 Cases. By RICHARD C. CABOT, M.D., Professor of Medicine and Professor of Social Ethics at Harvard University; formerly Chief of West Medical Service at the Massachusetts General Hospital, Boston. London and Philadelphia: W. B. Saunders Company. 1924. Pp. 709. 42*s.*

WE recently had occasion to express appreciation of Dr. Cabot's book on "Physical Diagnosis," and commented on its value to the student. The present book is the second volume of a work in which cases illustrating the significance of various major symptoms are discussed in detail. There may not be a large public for such a work in this country, but to the medical man who perforce lives isolated from centres of medical education, there can be few better ways of reviving and increasing his knowledge than by reading such a book in which physicians and surgeons of acknowledged authority give their opinions on particular cases. The descriptions of the cases are sufficiently well done to bring the picture of the patient clearly into mind, and the diagrams and charts which illustrate the volume are well reproduced.

DOSES AND SOLUTIONS.

A Text-book for Nurses and a Reference Book for Physicians and Nurses. By C. E. GARNSEY, Instructor in Anatomy, Dosage and Solutions, &c., in the Washington Sanitarium and Hospital Training School for Nurses, Washington, D.C. London and Philadelphia: W. B. Saunders Company. 1924. Pp. 111. 5*s.*

IT is somewhat difficult to determine the use of this small book on dispensing. In this country at any rate the nurse does not—in her usual vocation—need the information it gives. It may be useful to the doctor who dispenses his own medicines if he has forgotten his elementary mathematics and will take the trouble to find what he wants in it. Probably it will be most useful to a class not mentioned in the dedication—namely, the doctor's unqualified dispenser, for it

affords such a person two aids, some information about drugs and numerous lessons about the applied mathematics of the dispensary. The working out of the arithmetical problems which meet the dispenser is given in minute detail, and numerous questions are set to which answers are given later in the book. Simple medical terms are explained, drugs are classified according to their actions, prescriptions are explained, but the dominating feature is the working out of problems of quantities—often somewhat intricate—which the prescription sets the dispenser.

UROLOGY.

Die Endoscopie der männlichen Harnröhre. By Dr. ALOIS GLINGAR. Vienna: Julius Springer. 1924. With four plates. Pp. 72. $1.70.

THIS is a brief and business-like monograph on endoscopy of the male urethra. The instruments used for endoscopy both with air distension and with irrigation are described, and suggestions are made as to their clinical use. Detailed descriptions are given of the appearances of the urethra in normal and in diseased conditions, as seen by both methods. The description of the pathological changes in the deep urethra is particularly good. A short account is given of the various manipulations and operations which can be carried out endoscopically, and the whole is illustrated by a first-rate series of plates.

The book is essentially practical, and is plainly the work of an expert. It can be warmly recommended to all who practise this branch of surgery, and those who do not read German will find the book useful for the sake of the plates.

DIGBY'S MIRACLE.

By FRED. E. WYNNE. London: Herbert Jenkins. 1924. Pp. 310. 7*s.* 6*d.*

Dr. Digby is by training and inclination an experimental physiologist, and by circumstance a village practitioner, whose heresies preclude popularity. His special knowledge finds little scope until, called to the bedside of a paralysed girl whose patience under affliction has given her the status of a village saint, he is able to confirm his suspicions of her integrity by eliciting normal electrical reactions from her muscles. Her exact mental state, whether hysteria or conscious malingering, is not quite clear, but it is the circumstances of her cure rather than the pathology of her condition that are incidental to Dr. Wynne's intriguing story. For, to save the patient's face and also—a less worthy motive—to advertise the village for his own advantage, this enterprising fellow, young Digby, organises a miracle, arranging with the girl to have a vision guiding her to the curative waters of an old well. His punishment is not light: he has attracted this erotic, ill-balanced patient, who attempts to compromise him, and moreover his real affinity is repelled when she learns the source of the first of the series of faith-cures which are making the village famous. Flitting vaguely through the book is a rather prolix unworldly peer, who criticises nothing—not even the breeding of a professional man who addresses him repeatedly as "your lordship"—but quietly restores peace all round by having the stream of water deflected from the "holy" well.

The idea underlying the novel is excellent, and as a good story it should appeal to a wide and varied public. Those only will be disappointed who would wish to see the psychological problems involved more clearly defined and discussed, and the characters investigated more searchingly. A subject worthy of Henry James is wasted as the plot of a breezy novel, however absorbing; but it is probably just as a relaxation from socio-medical problems that the medical officer of health for Sheffield turns to the writing of light novels. Those who enjoyed the "Mediterranean Mystery" will find its successor no less entertaining.

The Conduct of Medical Practice.

A Series of Articles by Experts dealing with the Difficulties Encountered in Professional Life and How to Meet Them.

XXI.—MEDICAL ASSISTANTS.

BY JAMES NEAL, M.R.C.S. ENG.,
GENERAL SECRETARY OF THE MEDICAL DEFENCE UNION.

Quamdiu se bene gesserit.

Passing of the Unqualified Assistant.

LESS than half a century ago it was a common practice for a registered medical practitioner to employ one or more unqualified persons as assistants in the work of the practice. These unqualified assistants were frequently left in sole charge of medical practices, although possessing little or no professional knowledge, and so greatly was this custom abused that in 1893 the General Medical Council passed a resolution to the following effect:—"That the Council record on its Minutes for the information of those whom it may concern, that charges of gross misconduct in the employment of unqualified assistants, and charges of dishonest collusion with unqualified practitioners, in respect of the signing of medical certificates required for the purposes of any law or lawful contract, are, if brought before the Council, regarded by the Council as charges of infamous conduct under the Medical Act." This pronouncement was followed in 1897 by the following Warning Notice:—

"Whereas it has from time to time been made to appear to the General Medical Council that some registered medical practitioners have been in the habit of employing as assistants in connexion with their professional practice persons who are not duly qualified or registered under the Medical Acts, and have knowingly allowed such unqualified persons to attend or treat patients in respect of matters requiring professional discretion or skill; and whereas in the opinion of the Council such a substitution of the services of an unqualified person for those of a registered medical practitioner is in its nature fraudulent and dangerous to the public health, the Council hereby gives notice that any registered medical practitioner, who is proved to have so employed an unqualified assistant, is liable to be judged as guilty of 'infamous conduct in a professional respect,' and to have his name erased from the Medical Register under the 29th section of the Medical Act, 1858.

"Further, in regard to the practice commonly known as 'covering,' the Council gives notice that any registered medical practitioner, who by his presence, countenance, advice, assistance, or coöperation, knowingly enables an unqualified or unregistered person (whether described as an assistant or otherwise) to attend or treat any patient, to procure or issue any medical certificate or certificate of death, or otherwise to engage in medical practice as if the said person were duly qualified and registered, is liable to be judged as guilty of 'infamous conduct in a professional respect,' and to have his name erased from the Medical Register, under the said enactment.

"But the foregoing notices do not apply so as to restrict the proper training and instruction of bonâ-fide medical students or the legitimate employment of dressers, midwives, dispensers, and surgery attendants, under the immediate personal supervision of registered medical practitioners."

From this time the unqualified assistant has gradually disappeared, though for some years the regulations of the General Medical Council permitted a bonâ-fide medical student to spend six months of his final year as a pupil to a registered practitioner. Little, if any, advantage was taken of this permission, however, and in 1906 the General Medical Council withdrew the recommendation.

In these days any assistant in a medical practice must himself be a registered medical practitioner, and the fact of registration should be verified in every case. The greater number of assistants are comparatively newly qualified men, who, after holding various resident appointments in hospital, are

anxious to acquire an insight into the details of medical practice before setting up on their own account. Certainly there is no better way of completing one's medical education, but a year or two spent in this way will suffice, though many who start their professional careers as assistants are compelled from want of capital to remain in that position much longer before they are able either to buy a partnership or practice, or to set up on their own account. An assistancy with a view to partnership should only be entered upon when there is a definite agreement, signed by the principal, to offer the assistant a partnership at a definite date on terms, the more important of which should be specified in the agreement. I have referred to this point in a previous article, but it may be well to repeat the warning here.

The Contract: Law and Custom.

The legal relationship of principal and assistant in a medical practice is that of master and servant. It necessarily follows that the assistant becomes the agent of the principal for certain purposes, and that the ordinary principles of agency apply. The contract should in every case be made in writing, however short the period of the engagement, and should include the following principles drawn up by the British Medical Association:—

1. The assistant to give diligent and faithful service.
2. The assistant to give his whole time and attention to the practice under the direction of the principal.
3. The assistant to receive from the principal periodic payment for his services.
4. The assistant to keep just accounts and pay over to the principal all moneys received on behalf of the practice.
5. Provision for a holiday for the assistant.
6. Provision for the determination of the agreement.
7. Period for the duration of the agreement.
8. A restrictive clause as to practice during and after termination of the agreement.
9. A provision that both the principal and the assistant should be members of one of the Medical Defence Societies during the whole period covered by the agreement, and for the settlement of disputes by arbitration.
10. That if the principal requires the assistant's name to be put upon the insurance panel the assistant must agree that either the assistant shall not accept any insured person other than in the name of, and on behalf of, the principal, or if any insured persons are accepted in the name of the assistant he shall take every possible means to ensure the transfer of those persons to the list of the principal on the termination of the agreement.

The agreement must bear the proper stamp, and should be drawn up by a solicitor who has been fully instructed as to the requirements of the case. Where no contract exists, or the agreement does not specify what notice shall be given to determine the contract, the following customs have been held to prevail in the profession:—

1. In the case of a permanent assistant, engaged nominally for the year, where the salary is paid weekly, the custom is to give and require a month's notice.
2. An indoor assistant, or an outdoor assistant living in lodgings, or in a house furnished and provided by the master, may be dismissed, at any time, by a month's notice, or on the payment of a month's salary.
3. An outdoor assistant, living in lodgings, or in a house furnished and provided by himself, by the wish, or with the consent of the master, may be dismissed, at any time, by a three months' notice, or on payment of an equivalent salary.
4. Where an outdoor assistant, at the suggestion of the master, takes an unfurnished house, upon a yearly tenancy, terminable by a quarter's notice, at any quarter-day, and furnishes such house himself, it is customary for the master to give a three months' notice, terminating on the next ensuing quarter-day.
5. Where the master provides the house or rooms for an outdoor assistant, and the assistant provides the furniture, it is usual to give a three months' notice.

Relation between Principal and Assistant.

An assistant is legally bound to obey all reasonable and lawful orders of his principal, and may be dismissed without notice for wilful disobedience, gross misconduct, negligence, incompetency, or permanent disability through illness. The contract of service is dissolved by the death or bankruptcy of the principal. The principal must indemnify the assistant from the consequences of all lawful acts done in pursuance of his duties. This does not apply to the ordinary risks of a medical practice—e.g., the danger of attending infectious diseases. In law the principal is responsible for the consequences of any act of his assistant performed in the course of his employment and duty, this being the ordinary responsibility of the principal for the acts of his agent. But the assistant also is responsible in law for his own acts, and the aggrieved party has the right to select whether he will bring the action against the principal or against the assistant, or against both.

It is most desirable that both the principal and the assistant should be members of one and the same defence society. The two defence societies in this country, although coöperating in all matters in which they have a joint interest and concern, maintain an entirely independent position, and a few years ago in a joint letter to the medical press it was pointed out that membership of either society was purely personal, so that no member would be protected against an action brought against him in respect of an act of his partner, assistant, or locum-tenent, unless such partner, assistant, or locum-tenent were a member of the same society as the principal.

Remuneration.

The remuneration of an assistant varies in different practices according to the amount of work to be performed, and according to whether his board and lodging are paid for by himself or by his principal. Not infrequently a commission is paid in addition to the salary, either on midwifery cases attended, or in some instances a percentage is given on all receipts of the practice over and above a stated amount, to encourage the assistant to make every effort to increase the takings beyond that figure. An assistant rightfully discharged has no claim against his principal for salary for the broken period of service. When an assistant is engaged by a firm of partners, any partner has a right to terminate the engagement, so long as his action is ratified by the other partners. But if one partner tells the assistant to remain, the latter will be within his legal rights in disregarding the notice to leave. A principal can recover fees for attendances given by an assistant, so long as the services of the assistant have been accepted by the patient.

In the absence of any specific agreement to the contrary, all professional fees paid to an assistant, including fees for notification of infectious diseases, for attendance at inquests and court cases, and for performing post-mortem examinations on the direction of a coroner, belong to the principal. It is customary for the principal to pay the travelling expenses incurred by an assistant for the purpose of taking up his appointment, and for the assistant to pay his own expenses when he leaves.

Restrictive Clause.

Assistants are obtained by personal recommendation, by advertisements in the medical journals, and through a medical agency. In the latter case the agency accepts a certain responsibility, and should be informed at once if the assistant should prove unsatisfactory. The restrictive clause which it is now customary to introduce into an agreement with an assistant is of great importance. The radius within which and the length of time during which the assistant shall be debarred from practising in the locality vary according to the class of practice and the nature of the district. The prohibition is usually less severe than in the case of a partner, but should be sufficient to protect the principal from serious opposition. On the other hand, it must not be made wider than is reasonably necessary for this purpose, or it might be declared null and void, as contrary to the public interest. It should particularly be observed that the restraint is not removed by the death of the principal or by his retirement from practice.

THE LANCET.

LONDON: SATURDAY, OCTOBER 25, 1924.

AN EXEMPLARY PENALTY.

THE matters at issue between the insurance medical service and the approved societies having been settled for the immediate future, the annual panel conference on Oct. 16th[1] was of a more domestic character than for some time past. It was possible at the beginning to make arrangements for the regular holding of a social dinner at the time of each annual gathering, and at the end to offer a well-earned token of gratitude to Dr. H. G. DAIN, who is retiring after having piloted the conference through many stormy sessions. Much of the time was occupied by deciding what evidence, and in what form this evidence, should be presented to the Royal Commission on National Health Insurance, which held its second meeting on Oct. 15th at the Ministry of Health, and was to meet again on Oct. 23rd. The Commission, we understand, decided that the sessions at which oral evidence is taken will be held in private, a verbatim report of the evidence to be published within about a fortnight of each meeting. The atmosphere of the conference was, indeed, so calm that it was deemed advisable to give warning of possible squalls ahead. The defence fund, which has only yet reached a bare quarter of the £250,000 contemplated by its initiators, is increasing, but increasing slowly, doubt being present to many minds whether, with the capitation settlement and the Royal Commission appointed, its existence was any longer justified. Dr. BRACKENBURY pointed out with the wisdom of an experienced fighter that not only did one never know, but that a large sum of money at the back of them is an untold comfort to those on whom falls the duty of conducting ticklish negotiations.

The one really absorbing interest at the panel conference was the £1000 fine inflicted by the Ministry of Health on two panel practitioners charged with accepting fees for medicines supplied to insured persons in contravention of the terms of service. The committee appointed by the Ministry to inquire into the circumstances consisted of Mr. E. H. TINDAL ATKINSON, Barrister-at-Law (chairman), Dr. DAIN, and Dr. ALEX. FORBES, and their report was made just a year ago. It is unnecessary to summarise this report here, for the material portions of it have just been printed in a document issued by the Stationery Office.[2] Stated in general terms, the complaint submitted for inquiry was not merely the illegal acceptance of fees, but the encouragment of the belief that drugs or medicines provided by the insurance committee were not as efficacious as those which the panel doctor could supply, such an attitude being regarded as calculated to have an effect derogatory to the medical service. The sum of money involved in the transactions amounted to a total of about £60, the separate items of medicine being charged at the rate of 3*s*. 6*d*. per bottle or 3*s*. for cash. Only in three cases was the committee satisfied on the evidence that there was anything in the nature of direct suggestion from the respondents to patients that the latter should order and receive private medicine. But the committee found that there did exist among a certain proportion of insured persons in the district an impression, which the respondents were not careful enough to combat, that medicine supplied under insurance prescriptions was inferior and less efficient than that which doctors could themselves directly provide. There was no question whatever of concealment; the books were placed freely at the disposal of the inquiry, and all relevant documents were frankly disclosed. Acting on this report the Ministry decided not to remove the doctors from the medical list but to withhold a sum of £1000 from the supplementary grant. Subsequently the respondents applied to the High Court for the decision to be quashed on the technical ground that the insurance committee had made representations in respect of one of them without first directing an investigation by the medical service subcommittee, but this claim was not upheld. The Insurance Acts Committee has continued to press the Ministry to reconsider the penalty, but apparently the last word has been said and the decision is final. With these facts in view a motion was brought forward at the conference by the medical committee of the area, suggesting that the vindictive action of the Ministry in this case had disclosed a position of such danger to panel practice that in the event of its repetition immediate steps should be taken to send in notices of resignation. The chairman of the local committee expressed a doubt whether such a fine could be regarded in the nature of a penalty at all; he felt that so large a sum would not have been awarded against the doctors by a court of law, and that the penalty had awakened among panel doctors generally a feeling of distrust of the Ministry which could only be detrimental to the service. The decision has apparently led to a reawakening of the demand, repeatedly made at panel conferences for many years but which lately had practically died away, that decisions of the Ministry should be subject to appeal before some judicial tribunal. The conference, however, with commendable restraint decided not to brand the action of the Ministry as vindictive but to express its opinion that it was contrary to the principles of English justice for the Ministry to assume offences over and above those proved at the inquiry and to inflict any penalty in regard to such unproved offences, and further to protest against the invitation of the Ministry to the insurance committee to revise conclusions reached by that committee after inquiry in accordance with the regulations.

Apart altogether from the question of equity, the case gains greatly in interest from the fact that, according to their representatives at the conference, practitioners in South Lancashire do hold strongly that the medicine prescribed by them is actually more valuable to the patient than medicine in which the patient has no confidence. Their representatives were equally certain that all the practitioners in the area are desirous of carrying out strictly the wording of their regulations which forbid them to make a charge for medicine to patients on their list. The difficulty therefore remains unsolved. Doctors in Lancashire, no more than in other industrial areas, try to induce patients to take their physic; it is the patients themselves who demand the physic and who insist on paying for it. The inquiry committee had to admit that there was a custom prevalent in the county, as well as in other districts, whereby the ordinary patient regarded the supply of medicine and payment for the same as a matter of greater importance in his cure than the services rendered by his doctor by way of attendance. In these days little enough may remain of the bedside manner in its widest sense as an asset in contract medical practice; but here is an instance in which a

[1] A report of the conference appears on p. 873.

[2] Ministry of Health Reports of Enquiries and Appeals, &c., under the National Health Insurance Medical Benefit Regulations. Vol. III. H.M. Stationery Office. 1924. 3*s*.

natural belief in the value of the doctor's physic must be dispelled—and dispelled to the disadvantage of the patient—by the practitioner who accepts his statutory duties under the Insurance Acts. It is a psycho-physical problem of no little medical interest, and one which cannot be disposed of by an exemplary fine.

MENTAL HYGIENE AND WAR SERVICE.

THE occurrence of mental disorders on a large scale during the war found us to a great extent unprepared, and even those psycho-pathologists who were awake to the situation did not foresee that one legacy would be the presence of large numbers of ex-soldiers mentally unfit to take their place in the economic life of the State. These disorders were mainly of the kind called minor psychoses or psychoneuroses, and among the cases were found a high percentage, ranging from 50 to 80, with a history of pre-existing psychoneurotic symptoms. Service experience obviously exacerbated morbid states which would have remained comparatively harmless under ordinary conditions. It is not possible to say what proportion of pensioners belong to the group, since the official invaliding disability often gives no indication of the true nature of a man's disorder; but the proportion is a high one and the resulting social inefficiency is serious. Employers find that these men offer a greater problem than ex-soldiers with physical disabilities, and one hears from the men themselves complaints of an unfavourable discrimination which appears unjust and yet is sometimes inevitable. Economic stress on the one hand and a pension on the other operate unfavourably in presence of a condition that primarily arose as a failure of mental adjustment and still maintains that character. The popular belief in a physical foundation for the trouble, a belief fostered by the unfortunate phrase "shell-shock" and to a less extent by the word "neurasthenia," does not simplify the problem of the psychoneurotic pensioner. Events in America have followed a similar course, and an article by Lieut.-Commander R. F. SHEEHAN on Military Mental Defect[1] formulates conclusions with which workers in this country will be in almost complete accord. He finds that psychoses, such as dementia præcox and manic-depressive states, did not occur during the war with greater frequency than in peace, that dementia præcox was the most prevalent psychosis, as might be expected from its age incidence, and the group comprising the psychoneuroses and so-called border-line states was productive of the most damage. Not only during the war activities, but after the cessation of hostilities, they made up the largest class receiving aid from the Government. Dr. SHEEHAN deems it possible to exclude, by careful psychiatric examination, a large number of those who would develop symptoms under the pressure of war activities, and the suggestion should be read in conjunction with another article in the same journal which refers with pride to the results of an organised effort to exclude from the army those men in whom the presence of an early tuberculosis seemed likely. Dr. SHEEHAN points out the difficulties in handling psycho-neurotic pensioners, and that the resistance to treatment characteristic of the condition is often fostered by a well-intentioned but misdirected interest, based upon an erroneous conception of the mechanisms underlying the production of the symptoms. Such difficulties are familiar on this side, and our Pensions Ministry is faced by the dilemma that it is the duty of the country to help, by pension and treatment, those who broke down through a combination of predisposing tendencies and the stress of war—a stress sometimes as great as man was ever called upon to endure—and that at the same time the patients must be encouraged towards a rehabilitation of morale, towards a renunciation of the feelings of dependence, and away from the use of the symptoms as a defence reaction against the difficulties of life.

[1] The Military Surgeon, Washington, D.C., October, 1924.

THE ELECTRONIC REACTIONS OF ABRAMS.

Dr. ALBERT ABRAMS, of San Francisco, originator of the system of diagnosis and treatment by means of the so-called electronic reactions, died at the beginning of this year. His system lives after him. A few days ago the *Daily Express* reported a New Zealand case in which a woman was awarded £2000 damages against an Auckland doctor for "negligent treatment and false representation tending to needless delay and suffering before undergoing an operation elsewhere." The necessarily brief account from which we quote indicates that the patient was advised by two doctors to undergo an operation for cancer; she was treated instead by a practitioner who administered the Abrams treatment, and who is stated to have assured her that it would effect a cure in four or five weeks.

It happens that a full account of ABRAMS and his system is given in the *Scientific American* of last month. That journal, which conveys a variety of technical information in popular form, undertook a year ago, in response to repeated inquiries from its readers, an investigation of the diagnostic and curative value of electronic reactions. It appointed a committee with suitable qualifications, and it has now summarised the committee's conclusions. The investigators closely examined the Abrams instruments and technique; they saw the system at work, and they conducted a voluminous correspondence with practitioners and patients. The result, based on materials which we have no means of testing but framed in terms which we do not hesitate to accept, is a clear finding that the so-called electronic reactions of Abrams have no objective existence. The Abrams technique is declared to be "at best an illusion, at worst a colossal fraud." The summary contains a narrative of the evolution of the Abrams system, which is of human as well as medical interest. The story tells how the originator discovered that electrons were the real basis of life, the foundation of good or ill health. We hear of such instruments as the dynamiser and the reflexophone, invented for gathering, sorting, and tuning the electronic emanations from a blood specimen. Then comes the discovery of the percussive effect of the electronic waves or vibratory rates upon the human abdomen, with the subsequent claim to detect thereby cancer, tuberculosis, syphilis, and other pathological conditions in their incipiency before their symptoms can be observed by orthodox medicine. Electronic diagnosis told the patient's life-history from a drop of his blood. He pricked his finger, wiped the blood on a piece of blotting-paper, and posted the specimen to an electronist. The latter placed the specimen in the dynamiser, connected the apparatus up with a healthy young man or woman known as the reagent, and then made his diagnosis. The reagent responded to the vibratory rates in the blood specimen. If the patient had a toothache or a sore toe, the reagent, acting as the patient's proxy, had the same. The next stage was the invention of the oscilloclast, a machine for setting up electronic waves to break up or combat the harmful and destructive waves within the patient's body and thus restore him to a normal electronic balance. Fortunate in the publicity it received, the electronic reactions method advanced in popularity until, according to the *Scientific American's* estimate, in 1923 there were over 3500 electronic practitioners at work. If they did not all use the Abrams technique, most of them were using something like it. Patients began to ask for the Abrams treatment for which so much was claimed. Orthodox practitioners, tempted to give the public what it clamoured for, could take a 250-

dollar four-weeks' course and emerge fully qualified. At first, it seems, Dr. ABRAMS intended to confine electronic practice to doctors with a M.D. degree. Presently the basis was broadened. Orthodox doctors found themselves in strange company. The local medical association declared against the electronic system. Unkind tricks were played upon electronists who were sent specimens of chicken blood and diagnosed them as the blood of men suffering from congenital syphilis, cancer, tubercle, and so on. Orthodox doctors who had strayed into this field had either to find their way back to orthodoxy or to flourish by unorthodox methods which were commercially the more successful in proportion as they were the less scrupulously employed.

Incredible claims were made on behalf of the Abrams system. He appeared in a San Francisco court prepared to determine the paternity of a child by the electronic diagnosis of a drop of blood. In the recent New Zealand case counsel for the plaintiff asserted that it had been claimed that the Abrams machine could diagnose any of more than 100 diseases and could cure them, and that it could tell a man's religion and predict the sex of an unborn child. If we discount this assertion as possibly warmed by the genial fervour of a forensic atmosphere, the *Scientific American* narrates scarcely less remarkable stories of Dr. ABRAMS finding himself able to make his diagnosis from a photograph or a lock of hair in place of a drop of blood. Possibly it was the journalists who encouraged him in these higher flights. If so, it is appropriate that our contemporary should have restored the balance. The story is a study in faith healing and human gullibility. One strange feature of it is the fact that there was a moment when the Abrams method received a not unflattering attention in unexpected places in this country.

THE FIRST SOCIAL EVENING AT THE ROYAL SOCIETY OF MEDICINE.

THE first social evening of the session took place on Thursday, Oct. 16th, when Fellows, members of Sections, and their friends were received by the newly-elected President of the Society, Sir StClair Thomson. At 9.30 the Barnes Hall was filled to overflowing to hear an illustrated lecture by Dr. W. T. Grenfell, of Labrador, on Medicine in a Corner of the Empire. The new President was in great form throughout the evening, and his remarks in introducing Dr. Grenfell were of a gaiety to which no report can do justice. He admitted to a considerable feeling of awe at finding himself the sixtieth President in the 120 years since the foundation of the Society. Among those who had preceded him in the chair were Addison and Bright, who have given their names to well-known diseases, while he had reached his present age and had not yet discovered a good, killing, serviceable disease! Of surgeons who had held that office before him he instanced Abernethy, Astley Cooper, Benjamin Brodie, and Sir James Paget; his own position there he owed greatly to the fact that he represented the specialty to which he had devoted a life-time. Only once before had a specialist occupied the chair, in the person of Sir Francis Champneys. He felt very proud at being chosen as the first ophthalmic specialist to break the long chain of surgeons and physicians who had followed one another since the year 1805. The Society, which now numbered some 5000 members, was, he said, carried on by the active hon. secretaries, Mr. W. Girling Ball and Dr. H. L. Tidy, who had just taken the place of Dr. A. M. H. Gray after five years' strenuous service. In presenting the lecturer, Sir StClair Thomson reminded his audience that Dr. Grenfell was an old Marlborough boy, an old Oxford Rugger Blue, a past house surgeon to Sir Frederick Treves, that he once looked after the "elephant man," that he was an F.R.C.S., and also qualified as a master mariner. A report of Dr. Grenfell's lecture will be found on p. 891.

Annotations.

"Ne quid nimis."

OCCUPATIONAL DISEASES OF MINING.

THE coal-mining industry, although the general mortality of its workers is not high, suffers more than any other industry from occupational diseases which are subject to compensation. Foremost stands miners' nystagmus with 4091 new cases in 1922; second comes "beat" knee with 1721, third is "beat" hand with 1138, while "beat" elbow with 200 new cases is only just behind industrial lead poisoning with 247. The four first-named diseases essentially concern coal-miners. Nystagmus has already been the subject of two reports made by a special committee of the Medical Research Council. Now two members of that committee discuss the three "beats" in a report which has just been issued.[1] The prevalence of these diseases is stated; their causation is debated; their clinical characteristics are described; and means for their prevention and treatment are advocated. The disease in each case is a subcutaneous cellulitis of the part affected originating from trauma, chronic or acute, the result of work. The vernacular name "beat" indicates of itself that these diseases are not new things; nystagmus, on the other hand, which is a comparatively recent trouble associated with deficient illumination, presents a contrast in possessing no such popular designation.

The report is of interest not merely for the amount of useful information it contains, but because it sets forth the difficulties often associated with any attempt to reduce to statistical proof the causative influences concerned with occupational diseases. An effort is made to disentangle the possible effects of getting hard or soft coal, of working in wet places or in thin seams, of hand or machine getting, of depth of workings and of temperature; some support is found for the accepted opinion that, owing to the posture assumed when undercutting coal (of which good pictures are given), work in thin seams, especially if wet, tends to cause beat knee and also beat hand, which latter disease is also influenced by the hardness of the coal. The evidence gathered from each individual case, and from practitioners working in colliery areas, proves to be more valuable than records comparing the incidence of the diseases with the conditions prevailing on the different coalfields. In Somerset and the Forest of Dean coal is drawn on toboggans from the face by human traction; on these coalfields the workings, limited by the thickness of the coal, may be less than two feet in height. Boys dragging the load seize the roof props first with one hand then with the other while they thrust with their feet against the props behind; the action is that of a swimmer with the body swung clear of the ground, but occasionally the knees strike the floor. Hence on these coalfields the incidence of beat knee is far higher than elsewhere. Beat hand is particularly prevalent in the Cumberland mines, a fact which is ascribed to the hardness of the coal worked; the hands are jarred by the pick handle when the coal is struck. The condition which results is well illustrated. Beat elbow occurs more in Belgium than in Great Britain. On the Belgian coalfield seams are thin and inclined; "much of the travelling at the coal face is done by glissading down on the back, while the elbows are used either as brakes or levers. The likelihood of small injuries being sustained by the points of the elbows is considerable, and almost certainly this is the factor which determines the high incidence of the disease." Radiographs show how in this condition osteophytes detached from the olecranon process come to exist in the chronically inflamed bursa.

[1] Report on Miners' "Beat Knee," "Beat Hand," and "Beat Elbow." By E. L. Collis and T. L. Llewellyn. Medical Research Council, Special Report Series No. 39. H.M. Stationery Office. 1924. Pp. 49. 1*s.* 6*d.*

The clinical and pathological aspects of each condition are well described. In this part of the report allusion is made to the customs and habits of miners. Here reference occurs to the practice of wearing a cord as a garter below the knee.

"The explanation given of this practice, that by preventing coal and dust getting up the legs, it serves to keep the thighs clean (sic) and so obviates the necessity for washing, is hardly to the credit of the miner. It provides a sidelight on the need for pit-head baths to remove an ingrained habit as well as ingrained dirt. The garter acts in a twofold way: it gives a false security of cleanliness; and acts as a trap for retaining at the knee particles of coal and dirt which get into the trousers. We advise abolition of the order of the garter so that the order of the bath may come into its own. There was for daily use in 1922 in the whole of the kingdom washing accommodation (including three swimming baths) for upwards of 3000 men only, while there were employed underground in that year over 980,000 men!"

The value of protective knee-pads for use is discussed. The authors lay great stress on the need for early and skilled surgical treatment in every case, and particularly for cases of beat hand. "As soon as possible after the acute stage, massage, with passive and later on active movements, must be carried out. This form of treatment frequently accelerates the closure of the wound. It is a mistake to wait until a chronic sinus is closed before beginning massage." Only in this way can be avoided unnecessary risk of complete loss of function of the hand rendering unemployable men in the prime of life. Reference is also made to cases of non-infective tenosynovitis of the wrist; these cases, however, are less numerous and less serious than the cases already mentioned; they result from sudden strain, from unusual exercise of the forearm muscles, or from repeated jarring from using the pick on hard coal or rock. They usually respond quickly to rest.

The authors conclude that (1) the underlying cause for each of the diseases is the same—repeated trauma; and that the first line of prevention is to guard against it, or to minimise the risks so far as is practicable. (2) The determining cause of an acute condition is the ingress of infection to tissues of lowered resisting power; and the second line of defence is avoidance of infection by keeping the skin clean and the general health good. (3) The third line of defence lies in the proper equipment and use of first-aid stations in close touch with skilled surgical advice, which is particularly needed for cases of beat hand. (4) These lines of defence should be strengthened by (*a*) the abolition of garters worn below the knee, (*b*) the use in thin seams of suitable knee-pads, (*c*) attention to smoothness of pick handles. The three diseases are undoubtedly of great importance to the mining fraternity. Since, however, they are seldom fatal, the operating surgeon has been inclined to pass them by and leave them to his house officer. Practitioners who come in touch with the coal-miner will be grateful to the authors for having studied so closely diseases hitherto but little noted by experts.

PERFORATION OF GASTRIC AND DUODENAL ULCERS.

IF a gastric or duodenal ulcer has reached the stage when persistent medical treatment has failed to effect a cure, what are the chances of perforation occurring if operation is not resorted to? This is a question with which most physicians and surgeons are faced more than once, and it is unsatisfactory to note the great differences in the estimates of this risk by various authorities. Thus, Leube puts it at 1 per cent.; Ewald at 1·2 per cent.; Villingk at 2·7 per cent.; Michaux at 3·5 per cent.; Harslof at 10 per cent.; Brinton at 13 per cent.; Nolte at 25·8 per cent.; and Krogius at 30·3 per cent. In a recent publication Dr. O. E. Cederberg[1] has made a study of the cases of gastric and duodenal ulceration coming to operation for perforation at the Wiborg Hospital in Finland in the period 1904–24. In 11 of these cases the operation was performed before 1912, and inadequate records were made on them. In the remaining 60 cases careful records were kept, and it was found that 22·9 per cent. of all the cases of gastric and duodenal ulcer coming to operation were complicated by perforation. Dr. Cederberg, after comparing his own findings with those of other surgeons, concludes that among hospital cases the frequency of perforation is about 10 per cent. With regard to his own material, he notes that only two of the patients were women, and only in ten cases was the perforating ulcer in the duodenum; in the remaining cases the pyloric portion and the minor curvature of the stomach were the sites of the perforation. During the food-restriction period of the war, 1917–1919, the frequency of perforations was almost twice as great as before and after this period, and it would, therefore, seem that war-time rationing played an important part in this matter. In 30 cases the operation consisted simply of closing the perforation and reinforcing the closure with Braun's omento-plasty followed by irrigation and drainage of the abdominal cavity. The mortality was 50 per cent. This poor achievement was largely due to the length of the interval in many cases between perforation and operation, but Dr. Cederberg thinks it was also due, in part, to faulty technique. Since 1914 gastro-enterostomy was often done as an adjunct to closure of the perforation, and of the 34 patients thus treated only six died. The later results, as well as the immediate post-operative results, seemed to be in favour of gastro-enterostomy, for 60 per cent. of the patients thus treated were found at a later date to be in good health, whereas this could be claimed for only 30 per cent. of the patients treated only by closure of the perforation.

[1] Finska Läkaresällskapets Handlingar, July–August, 1924.

THE PREVENTION OF MALARIA.

THE publication of the Parkes Memorial Prize Essay on the Principles of the Prophylaxis of Malaria, by Captain J. S. K. Boyd, R.A.M.C., is completed in the *Journal of the Royal Army Medical Corps* for September. It is a pity that the essay could not have been published in one issue, for such a paper, giving what we may presume to be as complete a statement as the R.A.M.C. can to-day offer, will be widely read and quoted. Captain Boyd lays down four lines of prophylaxis: (1) The reduction or elimination of the reservoir of infection in infected persons; (2) the reduction of the mosquitoes by antilarval measures; (3) the protection of men from mosquitoes; (4) quinine prophylaxis. He advises concentration on one line, carefully choosing the most hopeful of the four, as it is scrupulous attention to detail that brings success. The methods he adopts for each of the four systems of prophylaxis are as follows. For the first system it is essential to keep infected natives at a distance, especially at night, and to give 10 gr. of quinine daily to all malaria carriers, thus reducing their infestation, particularly in regard to gametocytes, and so lessening their chance of infecting mosquitoes. Captain Boyd remarks that some medical officers tempt men to come regularly for their doses by double rations, light duty, or the like. The second system of prophylaxis is good in cantonments, but is almost impracticable on active service. To work on this costly principle demands, as a preliminary, exact and expert investigation on the spot. For example, *Anopheles stephensi*, breeding in wells, is easily mastered, but *A. maculipennis*, breeding in swamps, and *A. maculatus*, in streams, require quite different treatment, so it must be decided what species is to be attacked first. The third system consists in the provision of mosquito nets or repellents; the latter require frequent reapplication, as they are volatile, and are not effective for more than a couple of hours. Fourthly, quinine prophylaxis is carried out by the administration of a dose of 5 or 10 gr. of the drug daily, usually at about 6 P.M. This treatment is of value where mosquitoes are not very numerous, and where administration can be rigidly controlled; but it is not so good on active service, unless the mortality from malaria is high. Captain

Boyd further indicates certain considerations which must be borne in mind by the War Office when a campaign is projected in malarial districts, if the health and efficiency of the troops is to be kept at a maximum. The War Office should aim, he states, to plan the campaign for the non-malarial season, probably December to May inclusive, and should use, if possible, seasoned troops only, whether native or white. Mosquito nets must be provided, particularly bivouac nets, with a 10 per cent. surplus for each unit for replacement. Malaria diagnosis units, as in Palestine, will be needed, in numbers varying with the extent of the area, not with the number of the troops. On the headquarters staff of the expedition there must be an anti-malarial officer to deal with local problems. Screened huts will be needed for dining and recreation rooms. Base hospitals should be established at the outset, followed as soon as possible by hospital accommodation on the lines of communication. If a native village is heavily infected and near a camp, then the village must be removed. The medical officer of each unit must interest the troops in the prevention of malaria, and see that the scrub round the camp is cut. Care must be taken to keep the mosquito nets in serviceable condition and in nightly use. Further details are given in this very complete and most valuable paper. Captain Boyd's essay is an excellent critical synopsis of much recent work which has been reported in too many periodicals and books to be readily available to officers fighting the disease.

THE QUESTION OF "SLEEP CENTRES."

A RECENT number of the *Medizinische Klinik* (Sept. 21st) contains two articles on the subject of "sleep centres," each of them based on a case in which sleep was a prominent symptom. The paper of Dr. Edwin Hirsch is the more considerable, for it not only discusses the previously reported cases, but reviews the whole question from a general and philosophical aspect. At the time of the influenza epidemic of 1890 Mautner suggested, on account of certain symptoms with which abnormal sleep was associated, that there was a sleep centre in the grey matter of the third ventricle. By a lesion there, he believed, the paths for stimuli from the periphery to the cortex were interrupted and as a result sleep supervened, while cortical impulses were prevented from reaching the periphery and, thus confined, caused dreams. He drew attention to the proximity of the oculo-motor nuclei to this region and associated with it the drooping of the eyelids before and during sleep. Mautner's views were adopted by Economo, Nonne, and others in the earlier investigations into encephalitis lethargica. Trommer, in a monograph on sleep, assigned an active part to the optic thalamus, where he suggested there was a centre for the inhibition of the waking state; with this negative function was combined the control of all those positive acts without which sleep becomes difficult or even impossible. The seeking of a resting-place, the placing of the body in a posture which encouraged sleep, the position of the eyelids and of the eyes in sleep, all corresponded, he urged, with an inhibition of the waking condition, and led up to an assumption of control by the autonomic system so that the pupils became small, the breathing altered, and the distribution of the blood was changed—the whole state of the body indicating at once an entirely changed attitude towards stimuli from the world without. He attached great importance to the change in the position of the eyes. In the waking state they are slightly converged and look slightly down, in sleep they diverge and turn upwards. Freud saw in the sleep position a tendency to return to the posture of the embryo—head bent forward on the chest, arms flexed, legs drawn up. Now, while Mautner's argument may be true that the blocking of the sensory paths produces sleep, it does not follow that the portion of brain, the destruction of which causes the blockage, deserves the name of sleep centre; in fact, it is probably not a centre at all. But if the blockage be brought about by an active switching-off or side-tracking of the sensory impulses by a central mechanism whose peculiar attribute it is to switch them off and on, then the site of that mechanism certainly deserves the title of centre—either sleep centre or waking centre. Is there any indication of the whereabouts of such a centre?

Hirsch's case was one in which an abscess had destroyed the medial part of the left thalamus, and extending posteriorly to the level of the posterior commissure had eroded below the commissure and above the red nucleus, but left both these structures intact. The patient had shown a left hemiplegia, slight right hemiparesis and pyramidal signs on both sides; the pupils were small and equal; the speech had a nasal quality and became slower and more mumbling, like that of a person falling asleep; the legs were rigid in the so-called position of sleep—i.e., partly flexed at hip and knee. General bodily sensation was intact, as also were sight and hearing. The patient slept nearly all the time, but she could be roused by ordinary means. When wakened she opened her eyes, looked round in surprise, and immediately fell asleep again. It was only by constant stimulation that she was kept awake for examination. Two days before death she remained awake for several hours and then fell into a sleep which lasted till her death. The most noteworthy point as regards Mautner's theory is that the sensory paths were anatomically and functionally intact. The abscess extended below the posterior commissure, yet there were no ocular palsies; and Hirsch argues that the region above the oculo-motor nuclei was only affected towards the end of life. In two other cases—viz., those of Adler and Lucksch and of Pette—this same region was also involved, so that there is some ground for locating a sleep centre (or rather a sleeping-and-waking centre) there. The almost constant affection of this area in encephalitis lethargica lends support to this localisation. The question, however, arises whether other parts of the brain may not also possess a controlling power over sleep. Hirsch notes the severe lesion of the left thalamus, both in his own case and in that of Pette. He recalls the connexion of the medial part of the thalamus with the corpus striatum, which probably controls instinctive action, and with the frontal cortex. His argument in this part of the paper is much less rigid than in the earlier portion, but he concludes that the thalamus may initiate the action of the sleep mechanism and (by its connexion with the corpus striatum) cause the instinctive sleep position to be taken up, while by means of its connexion with the frontal lobes it places sleeping and waking to some extent under the control of the will. The thalamus is the centre for the psycho-reflex and sleep is a protective psycho-reflex. We do not only fall asleep when we are exhausted, but in order that we may not become exhausted, and long before exhaustion occurs, we experience a desire for sleep and a weariness that leads to sleep.

These considerations lead the author to postulate at least two sleep centres, one in the left thalamus, the other in the grey matter above the oculo-motor nuclei, and he believes that true sleep can only supervene pathologically when both centres (or one centre and the path connecting it with the other) are put out of action. In connexion with this paper we may recall the upset of the sleeping-and-waking rhythm that occurs both during and after encephalitis lethargica. In the acute stage patients sleep for days with little interruption, and afterwards many of them lose the normal power of going to sleep and perhaps only sleep when exhausted; others are excessively wakeful for part of the acute stage before becoming lethargic. It is the normal alternation that is disturbed. Most of these cases present some oculo-motor palsy, and they therefore lend considerable support to Hirsch's argument for a sleeping-and-waking centre in proximity to the oculo-motor

nuclei. The theory that a higher associated centre exists has much in its favour, but in view of our lack of exact knowledge of the functions of the thalamus and corpus striatum, the arguments for its localisation are inadequate.

RECENT ADVANCES IN PHYSICAL CHEMISTRY.

THAT colloidal behaviour is of paramount importance in physiological problems, and more especially in questions of cellular physiology, cannot be doubted. Unfortunately, the whole subject is surrounded by such a close mathematical veil that it is almost impossible for the ordinary student to approach it intelligently. This has resulted in the development of a special school of "colloidal chemists," and consequently colloids have come to be regarded as substances with a set of laws and properties entirely to themselves. Thus they are said not to obey the ordinary laws of valency in their combinations; they exhibit the peculiar phenomena of adsorption, governed by that equally peculiar equation of Freundlich. The late Dr. Jacques Loeb attacked these views, and attempted to simplify the whole theory of colloidal behaviour. A number of his early papers were collected and published in book form in 1922.[1] Vol. XLVII., 1924, of the Studies from the Rockefeller Institute for Medical Research contains a series of papers in which details of further experiments are given. It will be remembered that Dr. Loeb showed that the irregular combination of proteins with acids and alkalis was not due to any peculiar property of these substances as colloids, but resulted from the fact that no account had been taken of the hydrogen-ion concentration of the medium. He went on to show that proteins could be made to combine with acids and alkalis in strict accordance with the ordinary valency, or stoichiometric laws, provided that the hydrogen-ion concentration of the protein molecule was kept constant. At the same time he emphasised the importance of the isoelectric point of colloids in influencing their behaviour, all the experimental results agreeing with the Donnan membrane equilibrium theory. Dr. Loeb's work on colloidals must be regarded as a great advance, since, like all important researches, it has substituted simple for complex theories. The three papers in the current issue of the Rockefeller Studies are of particular interest since they contain accounts of experiments in support of Loeb's theory.

THE LATE MR. ARTHUR HILL TREVOR.

Arthur Hill Trevor, of the Inner Temple, Barrister-at-law, who died in his sleep after a strenuous day's shooting on the moors round Elvanfoot, Lanarkshire, took so wide and active an interest in the work of the Board of Control, of which he was a Commissioner, and was so unremitting in his efforts to ameliorate the conditions and to advance the treatment of persons suffering from mental illness, that his sudden and altogether unexpected death some weeks ago occasions a public loss and deprives the Commissioners of a colleague of great personality, who was highly esteemed as a friend by each one of them. Born in 1858, the only son of Charles Binney Trevor (an Indian Civil servant), Arthur Trevor was educated at Winchester and at Corpus Christi College, Oxford. He was in those days a well-known cricketer and, indeed, a famous bat. In 1884 he was called to the Bar, and for some years practised on the South-Eastern Circuit and at the Sussex Sessions, and was the author of a book published in 1904 on The Solicitors Act of 1888, with special reference to Procedure and Practice. Appointed Secretary to the Commissioners in Lunacy in November, 1905, he rapidly acquired so close and deep an interest in his new work that it was no small satisfaction to him when two years later he was chosen to fill the vacancy on the Commission created by the death of Mr. G. H. Urmson. Trevor did a prodigious amount of work, not only when on circuit with a medical colleague inspecting institutions and paying other statutory visits to patients, but also in the preparation of reports, memoirs, and other literary work on behalf of the Board. He also accomplished a great deal as a voluntary member of various committees towards a better understanding of mental disorders and the advancement of their treatment; mention, for instance, may be made of the active share he took in the work of the Committee of the Medico-Psychological Association in connexion with Lord Justice Atkin's Committee upon Criminal Responsibility, before which, later on, Trevor, in conjunction with one of his medical colleagues, gave evidence. He also gave evidence before the Royal Commission upon the Care of the Feeble-Minded in 1908; and, upon the passing of the Mental Deficiency Act and the reconstitution in 1913 of the Board of Control, he threw himself heartily into the widened sphere of action of the Commissioners. In 1910 the Medico-Psychological Association, mindful of his active interest in their work and his manifest wish to coöperate more actively than the fulfilment of his official duties perhaps demanded, elected him as an honorary member—a distinction which had only once previously been conferred upon anyone other than a medical man. He was a powerful link between the professions of law and medicine. This was perhaps specially exemplified in him by his constant endeavour to mould administrative action so as to conform, as far as practicable, to medical aspirations. In this connexion his bent of mind, humane and progressive, was conspicuous in his persistent efforts to secure legislation to facilitate the prompt treatment of mental disorder in its incipient and early stages. Up to within a few days of his death he had been preparing with much zest evidence for the Royal Commission on Lunacy Administration and the Early Treatment of Mental Disorder; and at the first meeting of the Commission on Oct. 7th a moving tribute to his memory was paid by the chairman, the Rt. Hon. H. P. Macmillan, K.C.

THE WORK OF BRETONNEAU.

IN his presidential address on Bretonneau: His Life and Work, delivered before the Section of the History of Medicine of the Royal Society of Medicine on Oct. 15th, and which was accompanied by an epidiascope demonstration, Dr. J. D. Rolleston said that, with the exception of the chapter on the history of diphtheria in the monograph recently issued by the Medical Research Council, little attention had of late been given in this country to Bretonneau, whose name was chiefly remembered in connexion with diphtheria, without sufficient credit being attached to his other services to medicine. By his clinical perspicacity in conjunction with elaborate post-mortem examinations, Bretonneau had done as much for the study of acute infections as Laënnec had for chronic diseases. Bretonneau was a remarkable personality whose medical achievements could be summarised as follows: (1) He established the specificity of diphtheria and typhoid fever. (2) By his doctrine of specificity he foreshadowed the germ theory of disease. (3) In opposition to the physiological school headed by Broussais, who had discarded the materia medica and reduced treatment to bleeding, leeching, and a starvation diet, he made several valuable contributions to therapeutics. Apart from his being the first to perform a successful tracheotomy for laryngeal diphtheria and to devise a method of administration of quinine which was characterised by Trousseau as a happy combination of the methods of Sydenham and Torti, he resuscitated the use of purgatives in dysentery and of martial preparations in anæmia, and was

[1] Proteins and the Theory of Colloidal Behaviour. By Jacques Loeb. London and New York: McGraw Hill Book Co.

the first to employ belladonna in constipation and enuresis, and to introduce cod-liver oil into France for the cure of rickets. (4) His work, especially his researches on diphtheria, by which he showed that the Syriac ulcer, malignant angina, and croup were the same disease, illustrated the practical value of the study of the history of medicine.

THE SURGICAL WORK OF ANY YEAR.

ONE of the most wonderful surgical publications in the world, too little known in this country, is a report on general surgery published annually [1] in Berlin. It deals only with the literature of one year, and yet each year we open it with amazement both at the vastness of the field it embraces and at the skill and patience with which the material has been sifted and reduced to order. It consists of a series of brief reports on the surgical work of the year in its various branches, and each report is followed by a full list of all papers published in that branch. The literature of the whole world is included, and the work of British, French, and American surgeons receives adequate attention and quite impartial criticism. The reports consist essentially of short and pithy abstracts of the papers, connected together into a coherent and lucid account. It is therefore possible in a few moments to discover the whole literature on any special point, to gather the leading features of each paper and the general trend of surgical opinion, and to form a shrewd estimate of those papers which are worth consulting directly. Perhaps the best way to give some idea of the nature of the book is to sketch the contents of a small subsection. It appears that in the year 1921 110 papers were published on cerebral tumours, excluding those of the hypophysis. The report deals generally with the statistics of these papers, and then passes on to discuss in detail those relating to gliomata and endotheliomata. Stressing the importance of early diagnosis and of early surgical treatment, it refers to the curious and dangerous fact that salvarsan will often produce temporary relief. X ray methods of diagnosis are briefly outlined, aural symptoms are discussed, and a rapid sketch is given of cases which have been described with tumours showing some peculiar feature. We pass on to the experimental production of tumours and the possibility of their traumatic origin, and the report concludes with a discussion on the technique of removal, the value of decompression, and the possibility of relieving a secondary hydrocephalus. To concentrate such a mass of information into an article of less than six pages, to make that article readable, and to infuse it throughout with a critical appreciation is a very great feat, and those who are acquainted with the prolixity of most German authors would scarcely have expected that it would be accomplished. But to find the same terse completeness all through a volume of a thousand pages is to an Englishman a little disquieting. It reveals an organisation, and a coördination and intensity of effort without parallel in this country. Of the value of the volume to those engaged in progressive surgery there can be no question at all. Indeed, the very existence of such a volume renders a knowledge of German important to any surgeon who would remain abreast of the literature of his subject, and imperative to one who wishes to assist in its advancement. There is, moreover, food for serious thought in the note which appears within the cover by way of preface. It states that at the Kaiser Wilhelms Akademie, Berlin, all the periodicals referred to in the report can be had for the asking by any medical man, student, or apothecary, on payment of an annual registration fee of one mark, to take home if he wishes. It is true that in London the privileged few who can afford it may obtain some such service, and if they can read German they can make use of the Jahresbericht. But we have no service so complete as that to which this report furnishes in Berlin so easy a key.

[1] Jahresbericht über die gesamte Chirurgie und ihre Grenzgebiete. XXVII. Jahrgang, Bericht über das Jahr 1921. Edited by Dr. Carl Franz. Berlin. Berlin: Julius Springer. 1924. Pp. 996. Price 16.40 dollars.

THE annual dinner of the Royal Society of Medicine will be held at the Hotel Victoria, London, on Wednesday, Nov. 26th, at 7.30 for 8 P.M.

THE quinquennial election of Direct Representatives of the medical profession to the General Medical Council will take place next month, and nominations must be in the hands of the respective registrars by Nov. 6th. Notices of election will be found in the advertisement columns. The present Direct Representatives are as follow, the date added in parentheses, being that of first appointment. For England: Dr. J. A. Macdonald (1911), Sir T. Jenner Verrall (1912), Dr. R. A. Bolam (1920), and Mr. E. B. Turner (1920). For Scotland: Sir Norman Walker (1907). For Ireland: Dr. Leonard Kidd (1906).

THE jubilee celebrations of the London (R.F.H.) School of Medicine for Women take place this week-end. They include a dinner at the Guildhall, an evening party at the School, and a thanksgiving service at St. Paul's for the increased opportunities afforded to women students of medicine during the last 50 years. Those of the alumnæ of this school who are also past students of St. Mary's Hospital may feel that there is some irony in this thanksgiving at the very moment when St. Mary's Hospital has shut its doors to women after eight years of co-education, during which time well over 200 women students have passed through its school. But the fact that all Scottish, Irish, Welsh, and English schools outside London are open to them, and that in London co-education is available at King's College Hospital, Charing Cross, Westminster, and (for 12 chosen women) at University College Hospital medical schools, shows that while set-backs are to be expected from time to time, the advance of facilities for women's training in medicine has been very great. We congratulate the London (R.F.H.) School of Medicine for Women on its jubilee; it has good reason to be proud of its record.

Modern Technique in Treatment.

A Series of Special Articles, contributed by invitation, on the Treatment of Medical and Surgical Conditions.

XCIII.—TREATMENT OF CHOREA.

CHOREA (χορεια, dancing) is a nosological label which has been attached to many clinical manifestations. The Chorea Sancti Viti of Paracelsus, dancing mania or chorea major of subsequent authors, belongs to the hysterical manifestations of disordered motion. The chronic choreas, or symptomatic choreas depending on degenerative changes of the motor cortex and its paths, for example, the syndrome described by Huntington in 1872, are also distinctive. Another group of cases sometimes referred to as "choreiform affections" or "pseudo-choreas," should be called "habit spasm" or "tic." Chorea minor, or Sydenham's chorea, alone is referred to in this article; it is an acute disease of children characterised by irregular purposeless involuntary movements, a varying amount of psychical disturbance, and the frequency with which it is associated with endocarditis and arthritis.

Prevention.

The realisation of the predisposing factors in the life of a girl or boy can do much to ward off an attack of chorea. It is curious how rarely there is a history of chorea in the parents, whilst the protean manifestations of rheumatism are so common. Girls are

affected two to three times as frequently as boys, the susceptible age being from 7 to 12 years. The girl in whom the disease is to be anticipated may be tall for her age, thin and anæmic. She is mentally bright, intelligent, and over-conscientious; if at school she may be at the top of her class and facing "special work" for a scholarship. In addition to this mental activity she is emotional and fidgety; in fact, chorea has been cryptically described as exaggerated fidgetiness. Rheumatism in some form is extremely common in the history of these children. The condition of the tonsils therefore requires consideration, for they are often enlarged and unhealthy, and may well be the portal of entry for the rheumatic virus. Fright, worry, and excessive study, though not causes, render the rheumatic child more liable to an attack of chorea; and the avoidance of these factors lies within the field of preventive medicine.

Early treatment at the onset of symptoms will nearly always cut short an attack, or at least lessen its severity. The earliest symptoms fall into three groups:—

1. *Change of Mentality.*—The child becomes headstrong, resentful of reproof, cries with little provocation, and loses power of concentration.

2. *Movements.*—She is much more fidgety, and is constantly changing position. Her facial muscles show little irregular jerky movements, and her hands are less controlled, as seen by her handwriting.

3. *Muscular Weakness.*—This is always present though commonly overshadowed by the movements.

General Treatment.

There is no specific drug for chorea. The one essential of successful treatment in all cases is rest and quiet, for the movements cease during sleep. This is the opinion of most modern pediatricians, founded on close observation under hospital conditions of children who have been treated as out- and in-patients, with and without medicine. Chorea does not get well by itself, but it is clear that drugs alone will not achieve a cure, for cases drag on month after month as out-patients, rapidly to improve when admitted to hospital, though the same drugs are used. The child must be put to bed and kept there, exception being made only in those few cases where confinement to bed accentuates the nervous disturbances. In this case the child may be allowed up to lie on a sofa. If the movements are at all forcible, bed must be insisted on, care being taken to see that the child cannot injure itself by constant rubbing, for such sores heal tardily. In really violent cases the mattress should be on the floor, and the case constantly watched. No mechanical restraint is ever justified. The question of whether a trained nurse is necessary must be answered in each individual case. The discipline of a sympathetic, but firm, nurse is of great value, and advisable in severe cases where sleep is much disturbed, but milder cases may be better without the introduction of a stranger, provided the mother is sensible.

No special restrictions are called for in the diet, which should be liberal and appetising. Hydrotherapy is a most valuable aid in producing rest and sleep—e.g., shampooing the head twice a day for ten minutes is often successful. Hot or cold packs are excellent therapeutic measures, and are often more effective than soporifics. The hypodermic needle should never be used. When rest and quiet have been assured, two aspects of the disease must receive attention: (*a*) nervous disturbances, and (*b*) rheumatic manifestations.

(*a*) *The nervous disturbances* may call for sedatives, the aim being to produce a certain amount of sleep rather than to abolish the movements. Chloral hydrate gr. vii., trional gr. v., or chloretone gr. v., are the best, and should be given three times a day. (Dosage for a child of 7 years.) Bromides may be usefully combined with the chloral, while chloretone is best given as an emulsion with liquid paraffin or cod-liver oil. These drugs should not be pressed, *for they are not curative*, and if chloretone is employed a watch must be kept for an erythematous rash and incontinence of urine.

(*b*) *Rheumatic manifestations* include pyrexia, a sore-throat, and less often vague pains in the limbs, and call for treatment with salicylates which should be given with alkalis, so long as there is any rise in temperature. I do not think that a prolonged course of salicylates protects the heart, and it certainly has no beneficial effect on the chorea. A sore-throat or even enlarged tonsils should be painted twice a day with—

R	Salol	gr. xxx.
	Glycerini	ʒ ii.
	Alcohol 90 per cent.	ad ʒ i.

When the active stage is subsiding, and before the child is allowed up, a short course of arsenic is valuable. It should be given well diluted, in tonic doses only. During convalescence, when the movements have almost ceased, iron should be given in all cases. Cod-liver oil and malt for 2–3 months should be ordered for those who have lost weight. Massage and exercises are beneficial provided they are not started too early. The exercises should stop short of fatigue, and at first should be crude and easy to perform; such as touching the tip of the nose with the finger of an outstretched arm, or pointing the toes while walking along a line or following the pattern of a carpet. Later, games requiring more skilled control may be employed—e.g., building castles with bricks or cards, knitting, exercises on the piano, and so on. Such exercises hasten the recovery of voluntary control of movement.

Treatment of Special Conditions.

Heart.—We have no specific by which to protect the heart from infection, and must trust to early and thorough treatment of the chorea itself to reduce the incidence of cardiac lesions. When there is evidence of the myocardium being affected,—namely, cardiac enlargement, increased pulse-rate, or a diastolic bruit at the apex—we must rely primarily on rest as a therapeutic measure. The rest in bed must be complete, and prolonged until there are no further signs of activity. This may even entail six months' rest.

Chorea Paralytica.—The so-called paralytic cases of chorea are those in which the movements are almost absent, and the muscular weakness so pronounced that the child is virtually paralysed. Such cases call for very careful nursing, and ample light and nourishing diet. Stimulants will be required. Massage must be begun earlier so as to maintain the muscular tone and nutrition pending the return of voluntary movements.

Chorea Insaniens.—In those cases in which the movements are so violent and the mental disturbance so great that the patient is temporarily insane, feeding is difficult. The best forms in which to give nourishment are the semi-solids, such as jellies and custards. Artificial feeding may even be necessary. Sedatives may be pushed. The danger is exhaustion.

Hyperpyrexia, which is rare, and must be treated by salicylates and hydrotherapy.

Chorea Gravidarum.—The usual onset is in the third month of the first pregnancy in very young women. The general treatment of chorea will be successful in the great majority of cases, and only very occasionally will it become necessary to terminate the pregnancy.

After Care.—Whenever possible the patient should be sent into the country or to the sea coast for a prolonged convalescence, since the importance of chorea lies in its cardiac complications.

H. E. A. BOLDERO, B.M., B.Ch. Oxf.,
M.R.C.P. Lond.,
Physician to the Evelina Hospital.

Special Articles.

THE PANEL CONFERENCE: PREPARING FOR THE ROYAL COMMISSION.

THE annual conference of representatives of local medical and panel committees met at the Central Hall, Westminster, at 10 A.M. on Thursday, Oct. 16th, Dr. H. G. Dain, of Birmingham, presiding for the last time.

Annual Conference Dinner.

Before the formal business was taken it was agreed to appoint at each annual conference a dinner committee formed of the chairman and seven other members in the Home Counties to arrange for the holding of a dinner at the following conference, to which members of the Insurance Acts Committee (hereinafter called simply I.A.C.) amongst others should be invited as guests. At a later stage the seven following names were suggested and approved —viz., Dr. H. S. Beadles (West Ham), Dr. H. J. Cardale (London), Dr. F. Challans (West Ham), Dr. A. P. Eldred (Essex), Dr. J. W. Hill (East Ham), Dr. C. F. J. Scott (Middlesex), and the secretary for the time being of the London Panel Committee.

Personnel of the Royal Commission.

On the motion to receive the report of the Committee for 1923–24, Dr. Brackenbury referred to the negotiations for the 1924 Medical Benefit Regulations, all of which were settled to his satisfaction, except one certification rule. With regard to the Royal Commission to inquire into the working of the national health insurance system, the I.A.C. had asked for a comprehensive inquiry, and the terms of reference had been submitted to the Committee and accepted by them. They could not, however, regard the personnel as satisfactory; they had hoped to have a small, impartial and weighty Commission able to issue a unanimous report, without which the position might be no better in two years' time than it was now. The carefully worded paragraph in the report setting out the I.A.C.'s view is as follows:—

> The Committee did not consider that the personnel of the Commission as a whole fulfilled the requirements, and requested the Minister of Health to receive a small deputation from the Committee to discuss the whole matter. This was agreed to by the Minister of Health, and Drs. Brackenbury, Bolam, and Dain, and the Medical Secretary waited upon him on July 30th. The result of this deputation is considered very unsatisfactory. The Committee has found it necessary to inform the Minister of Health that it is not satisfied with the personnel of the Royal Commission, and is doubtful whether the Commission has that weight which the public might expect in respect to a body which is to report on a matter undoubtedly affecting the future developments not only of the insurance system but of public health in this country. Exception may be specially taken to the presence of Sir Alfred Watson as a member of the Commission. He has been so peculiarly identified with the finances of the Act and his authority has so frequently been involved in acute controversial financial questions that it appears to the Committee that he might more properly have placed his experience and views before the Commission as a witness. However, having made this protest the Committee proposes to place before the Commission its evidence which will be primarily directed to the broad issues comprised in the terms of reference to the Commission.

The Commission had asked for evidence from the I.A.C. as soon as possible, but obviously the memorandum of evidence, Dr. Brackenbury said, must go before the Council of the B.M.A., in so far as it affected other than panel practitioners—e.g., medical officers of health, consultants, pathologists. It was, however, hoped to circulate a draft for the consideration of panel committees in December.

Remuneration.

A motion by Bury, to the effect that the time had now arrived when the panel practitioner should be paid in full for every person on his list, revealed a belief that different parts of the country receive in effect different values for their capitation fee. The Southport representative believed that in his area 8*s*. 2*d*. per head was received instead of 9*s*. 6*d*., and recently every practitioner had had large numbers taken off his list, many of whom had to be reinstated later. Cambridge believed the capitation fee received in that area to be 9*s*. 11*d*. Dr. Brackenbury, while regarding the central pool as in order, agreed that there might be mistakes in its distribution, although the distribution must necessarily be from the top. There was no longer any unallocated residue, but he thought the time had come when the Ministry of Health might be asked to look back and see how, as a matter of fact, the pool had worked out from year to year, what had been the number of insured persons, and what the amount paid per name on the doctor's list.

Local Health Administration.

A motion by Warwickshire urged the special Committee[1] appointed to prepare evidence for the Royal Commission to take into consideration the possibility of reforming the local organisation of public clinical and preventive medicine, particularly the application of the scheme drawn up by the B.M.A. in 1918 defining the principles governing any steps to coördinate or reconstruct local public health administration. Dr. Brackenbury felt sure the Conference would accept without demur any steps leading to the unification of local health services. It should not be forgotten that there was another Royal Commission sitting, that on Local Government, for more than a year past.

Evidence Before the Royal Commission.

On a motion by Dr. Gordon Ward that the experience and views of insurance practitioners were of such paramount importance as to demand separate and authoritative presentation to the Royal Commission, Dr. Brackenbury pointed out that in regard to general matters it would be the endeavour of the Evidence Committee to express the opinion of the medical profession as a whole, and in what he might call intra-insurance matters to be guided by the opinion of panel committees. The evidence to be tendered would be of very wide scope.

Inequality of Benefit.

A motion by Kent to remove at the earliest possible moment from approved societies the administration of sickness benefit gave rise to an interesting discussion. Inequality of benefit offered by various societies is admittedly leading to some hostility towards the panel practitioner and militates against the success of the insurance scheme. Dr. Brackenbury suggested a clear separation of medical benefit and cash benefits so that the medical insurance service could get on with its own job of medical benefit in the widest sense. Cash benefits might then be left in the hands of the

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[1] The personnel of this Committee is as follows:—
Ex-officio: Mr. J. Basil Hall, M.C. Camb. (Bradford), Dr. H. B. Brackenbury (Hornsey), Dr. R. A. Bolam, LL.D. (Newcastle-upon-Tyne), and Mr. N. Bishop Harman (London).
Appointed by B.M.A. Council: Dr. J. H. Badcock, L.D.S. (London), Prof. H. R. Dean, F.R.C.S. (Cambridge), Lt.-Col. F. E. Fremantle, M.P., O.B.E., M.Ch., F.R.C.P. (Hatfield), Prof. A. J. Hall, M.D., F.R.C.P. (Sheffield), Mr. Somerville Hastings, M.P., M.S., F.R.C.S. (London), Dr. R. Wallace Henry (Leicester), Sir Thomas Horder, Bart., M.D., F.R.C.P. (London), Dr. W. J. Howarth, C.B.E. (London), Sir Ewen J. Maclean, M.D., F.R.C.P. (Cardiff), Mr. E. W. G. Masterman, F.R.C.S. (London), Dr. John Stevens (Edinburgh), Mr. E. B. Turner, F.R.C.S. (London), Sir Cuthbert S. Wallace, K.C.M.G., C.B., F.R.C.S. (London), Mr. H. J. Waring, C.B.E., M.S., F.R.C.S. (London), and Dr. Mabel Ramsay (Plymouth) (nominated by the Medical Women's Federation).
Appointed by Insurance Acts Committee: Dr. H. G. Dain (Birmingham), Dr. E. R. Fothergill (Hove), Dr. H. J. Cardale (London), Dr. J. G. McCutcheon (Glasgow), Dr. J. P. Williams-Freeman (Andover), Dr. R. W. Craig (Dalkeith), Dr. H. S. Beadles (Romford), Dr. J. W. Bone (Luton), Dr. T. Wood Locket (Westbury, Wilts), Dr. P. Macdonald (York), Mr. H. S. Souttar, C.B.E., F.R.C.S. (London), and one other (to be appointed to the vacancy caused by Dr. Brackenbury now being an *ex-officio* member).

voluntary agency, the two being connected inherently by the system of certification. Dr. Beadles set out his well-known views on the desirability of entrusting medical (including additional) benefit to a local health committee, funds being equalised in a central pool, deposit contributors who are at present not insured getting their proper share. The present system is eminently unsatisfactory, in which the sum paid out as a maintenance wage varies according to whether it is called sickness, unemployment, accident, or old age benefit. Amalgamation of the whole of State insurance (medical benefit excepted) would, he is satisfied, rid the system of the Poor-law stigma.

Fees for Anæsthetics.

The report of the I.A.C. lays down what the Committee considers to be the circumstances under which, in accordance with resolutions of the Conference, a fee may be claimed from the local practitioners' fund in respect of an anæsthetic administered to one of his insured patients. Dundee proposed an amendment to extend the scope of the statement to include circumstances under which the fee was chargeable to the patient, and it was referred to the I.A.C. to prepare and circulate a clear statement of wider scope. East Sussex desired to limit the occasions on which a fee should be payable out of the practitioners' fund to the administration of an anæsthetic for an operation by a panel practitioner within the terms of his contract. The Conference evidently preferred local option. On an appeal from Northumberland to consider the difficulties of practitioners in small towns with local hospitals, the question was raised, and answered in the affirmative, whether the Distribution Committee on which Dr. Dain had a seat could consider the loading of local pools according to the amount of anæsthetics given.

National Insurance Defence Trust.

On the report of the trustees Dr. Brackenbury answered the doubt expressed in some quarters that with the capitation settlement and the appointment of a Royal Commission there was no longer any need for such a fund. Possibly not, he said, for many years, "but we never knew." A large sum of money behind them was always a help to negotiators. Dr. A. Cox reported that amounts to a total of £1991 had been received since the report (showing £66,000 odd) was made up to August 31st, 1924. Criticism was directed against the loan to a panel committee at a low rate of interest for the establishment of a public medical service. It was, however, pointed out that this item came well within the objects for which the fund was instituted. Members of the Conference were in favour of an ultimate widening of the scope of the trust fund to cover the whole expense of the I.A.C. and of the annual panel conferences.

The Thousand-Pound Fine.

In regard to the case of two panel practitioners in Lancashire charged with making improper charges to insured persons for medicines supplied, who were fined £1000 by the Ministry of Health, the report contained the considered opinion of the I.A.C. that the penalty was out of all proportion to the offence for the following reasons:—

(1) That after much investigation, in addition to some few cash cases, there were only 13 cases of charges being made amounting to just over £60 spread over a period of six years;

(2) that the investigation was only made possible by the coöperation of the two practitioners themselves in placing their books at the inspection of the Insurance Committee;

(3) that the practitioners did not make direct suggestion of a charge except in three cases;

(4) that no further accounts were rendered by the doctors after they were warned;

(5) that the sums received from patients had been refunded;

(6) that the action of the doctors was rather in ignorance of the law than with intent to evade the obligation with a view to private profit; and

(7) that the doctors concerned enjoyed a reputation for good work and character.

A motion was brought at the Conference by Manchester to the effect that the vindictive action of the Ministry in this case disclosed a position of such danger to panel practice that in the event of a repetition of such action the I.A.C. be instructed to take immediate steps for notices of resignation to be sent in by all panel practitioners. The story of the case was brought up to date by the reading to the Conference of two letters which had since passed between the secretary of the B.M.A. and the Ministry. Dr. H. F. Oldham (chairman, loc. med. comm., Lancs) queried whether such a fine could properly be regarded in the nature of a penalty at all. A fine of £250 would have met the case and acted as a deterrent. Such a large sum, he felt, would not have been awarded by a court of law, and awakened a feeling of distrust of the Ministry to the detriment of the service. It was, he agreed, clearly necessary in such a case for the penalty substantially to exceed the profit made. Manchester and Salford, by their representatives, supported the validity of the position that the medicine prescribed by a panel doctor is more valuable to the patient than the medicine in which he has no confidence. Another representative countered with the remark that the mental suggestion of doctors' physic was in the mind of the Ministry of Health in inflicting a severe fine, the Ministry desiring to impress the real facts of the case on the practitioners of Lancashire. It was further pointed out that the offence was committed by a practitioner of little experience, who was told that charging for medicines supplied was customary and who after being informed to the contrary only gave out medicine in two cases in the district, one private in nature, the other a dying man. Dr. A. E. Larking instanced a similar case which had occurred in Bucks, where a fine of £5, considered sufficient by the Insurance Committee, had been increased by the Ministry to £100. Dr. Oldham reiterated, in defence of the Lancashire panel, that they were all anxious to carry out strictly the wording of regulations; there was no such feeling as had been attributed to them. In the case under discussion, the habit of paying for medicines had grown up in the practice, and after 1921 there was only evidence to show that the regulations had been broken in about three cases. The doctors had never tried to induce patients to take their physic; the patients persisted in paying. The serious points in the case were that the Insurance Committee, acting under instruction from the Ministry, had spent 47 days in house-to-house canvassing and in getting bills produced, and when Bury could no longer afford the expense the Lancashire committee took on the inquiry. This inquiry practically exonerated the doctors of evil intent and there remained only mistakes which justified no such excessive or even vindictive penalty. The practitioners had, in effect, been deprived of a whole year's remuneration. The Ministry surely had no right to dictate to an insurance company what its action should be. After prolonged discussion two resolutions, proposed by Dr. Brackenbury and seconded by Dr. Oldham, as follows, were put to the meeting and carried with acclamation:—

1. That the Conference has heard with very great regret the letter from the Ministry, dated Oct. 14th, and is of opinion that the fine inflicted in the case referred to is greatly excessive, taking into consideration all the circumstances disclosed in the report of the Inquiry Committee, and that it is contrary to the principles of English justice to assume offences over and above those proved at the inquiry and to inflict any penalty in regard to such unproved offences.

2. That the Conference further protests against the procedure of the Minister in this case in so far as the Ministry, which itself had to pronounce judgment, directly invited the Lancashire Insurance Committee to revise the con-

clusions which that Committee had reached after inquiry in accordance with the regulations.

Automatic Transfer.

On a motion by Ayrshire, now that unlimited choice is allowed to panel patients, to revert to the system of automatic transfer, it was learned that the I.A.C. had already asked the Ministry to make this change, for which its clerks were pressing, on the ground of economy of time.

Public Medical Service for Dependents.

Devonshire desired to ask the I.A.C to obtain the opinion of panel practitioners generally in regard to support being given to public medical service schemes on the lines of the model scheme drawn up by the B.M.A. The motion was withdrawn in order to leave entire liberty to each insurance area to act as it thought best.

Retirement of Chairman.

At the close of the formal business Dr. P. Macdonald rose to propose a vote of thanks to Dr. Dain, who after five years' service was retiring from the charmanship of the annual conference. Always a good chairman, Dr. Dain had, he said, become first-rate, with a rare combination of good temper, tact, and ability. In reply Dr. Dain expressed his gratitude to the Conference for having given him the opportunity of perfecting himself in the art of chairmanship. Dr. J. W. Bone and Dr. Brackenbury were also accorded warm thanks. Dr. E. K. Le Fleming (Dorset) was elected chairman of the Conference for the coming year.

The Conference closed at 5.45 P.M.

PRESENTATION TO DR. BRACKENBURY.

A RECEPTION was held at the King Edward VII. Rooms, Hotel Victoria, London, on Wednesday evening, Oct. 15th, for the purpose of making a presentation to Dr. H. B. Brackenbury. There was a large gathering of medical men and women whose work had brought them into contact with Dr. Brackenbury, especially in the sphere of medical insurance practice. The guests were received by Dr. H. G. Dain and Mr. H. S. Souttar, respectively chairman and hon. treasurer of the Testimonial Fund. After a delightful preliminary entertainment of music and dancing, the formal presentation took place.

Sir Humphry Rolleston spoke for the medical profession as a whole. He said: This is a great, if not unique, occasion—a spontaneous, splendid tribute by members of the medical profession, usually individual and somewhat inclined from their circumstances to plough a lonely furrow, to one who for years has rendered them great services without fear and without any thought of reward. The immense success and popularity of this testimonial express the profession's keen sense of gratitude to Dr. Brackenbury for his wise leadership, his constant guidance of the difficult work of the Insurance Acts Committee, and his skilful advocacy of the claims—monetary and of other kinds—of the insurance practitioners during the last eight years: especially before the Ministry of Health, at the Board of Arbitration as to the capitation fee in 1920, and the Board of Inquiry in January of this year. His conduct of affairs on the last occasion was such a triumph that it drew from all, even his official opponents, open admiration for his broad knowledge, ability, and dignity. It must not be forgotten that this success was but the culmination of many years' laborious training in public affairs, and unselfish work on behalf of the British Medical Association, which has already shown its appreciation of these services by conferring on him its blue ribbon—the gold medal of the Association—at the Bradford meeting. It is pleasant to know that there are such men amongst us, and surely we honour ourselves by acclaiming Brackenbury a high-minded gentleman of great moral courage, a medical statesman of exceptional ability, the friend and benefactor of the medical profession.

Dr. Dain said: During the passing of a generation there had been a change in the relation of medical practitioners to the public and to one another. A generation ago they started professional life as individualists, going out into the world in solitary fashion. The patient only saw his doctor when his disease was already a serious thing. All that was changed. A tremendous decrease in the death-rate had gone hand in hand with an increase in the doctor's work. He was now called in for small ailments; a sense of responsibility had developed among the public for the illness of the individual, in origin no doubt due to a desire for protection against infectious disease. The medical profession was now asked for its collective opinion on matters of public importance and for concerted measures of treatment. Doctors met and talked things over. In this change Dr. Brackenbury had played a leading part. We were there to honour him as one of the greatest leaders the medical profession had ever produced. With unique experience of public affairs as educationist, alderman, and ex-mayor of his borough, he combined a grasp of detail, a remarkable memory, an enviable capacity of sizing up a new problem and of seeing in a flash the implications which it involved. He hoped that as a Member of Parliament we might soon have his services in the House of Commons. He concluded by asking Dr. Brackenbury to accept what was offered as an expression of gratitude and goodwill.

Dr. Dain then handed to Dr. Brackenbury a cheque for £6500 and a handsome canteen of silver inscribed "To Dr. Brackenbury as a mark of the respect and esteem in which he is held by fellow members of the medical profession."

Dr. Brackenbury said that criticism and opposition were natural to the earlier part of any public man's life, and it was with something of astonishment that he was emerging from the sombre chrysalis stage into one of appreciation and encouragement. With that feeling of astonishment there came to him an overwhelming sense of the extraordinary kindness of it all. It was true that he had spent a good deal of time, and had made financial sacrifices, in trying to help the medical profession on certain lines. But a good many other people had been doing exactly the same thing. To him it had all been very interesting and very enjoyable. He could not recall a happier three-quarters of an hour in his life than when making a certain speech before the Court of Inquiry. There seemed to him to be no reason why one particular individual of a group—a group who had been doing work in common, who had influenced one another and guided one another, and as a group had done far better than any individual could have done by himself—should be chosen for a presentation. He recalled a sentence of Francis Bacon's, "I hold every man a debtor to his profession, from the which as men of course seek to receive countenance and profit, so ought they of duty to endeavour themselves by way of amendment to be a help and ornament to their undertaking." It was a maxim which perhaps some of them did not think about as often as they might. For himself, he had never professed to be an ornament, even in the Baconian sense of the word, but he had quite honestly tried to be a help to the profession, and it appeared from what was being done to-night that in some sense and in some degree he had succeeded. "I want to thank you most heartily," Dr. Brackenbury concluded, "for these beautiful things, and for this wallet containing such an embarrassing number of delightful possibilities. But more than that, believe me, I thank you for the sincerity and the kindness and the encouraging appreciation which I am sure have been in your hearts and minds in making this presentation."

Mr. Souttar proposed the thanks of the meeting to Sir Humphry Rolleston, and the rest of the evening was spent in renewing social ties and in anticipation of the Panel Conference on the following day.

RAINFALL AND HEALTH.

A STUDY OF RECENT METEOROLOGICAL DATA.

(BY A SPECIAL CORRESPONDENT.)

IT was as recently as 1921 that we were close to a water-famine of disastrous intensity.[1] In the south-east of England it seemed as if a pall, pervious to sunshine, but impervious to wet, had spread over the land. Rain-bearing winds favoured the north and west. Even experts took it for granted that the rainfall could not fall below 60 per cent. of the average, and yet in not a few places the rainfall, to use an Americanism, was cut in half. Truly, 1921 was a remarkable year. Yuccas flowered as if England were their real home. Time-worn expressions such as "weather permitting" lost their significance. Rivers, ponds, and ditches dried up, flowers languished and died, fields looked like patches of desert, children's playgrounds blew away in dust. Clouds came and went, the barometer rose and fell, winds seemingly favourable for rain proved fickle, the law of averages flouted the pundits. The happy army of outdoor-lovers came into their kingdom, and fortunately, those who prophesied disease were confounded—we are speaking here in general terms without necessarily disputing the judgment of those who contend that the drought was responsible for local troubles. There were, however, graver aspects: agricultural and horticultural losses and perils to men and beasts. As regards water-supply, the Ministry of Health showed itself alive to the potential danger of the situation, and at an early stage formed what might be described as an unofficial expert committee, composed largely of non-Ministry officials who placed their services unreservedly at the disposal of the health service.

The Book of Normals.

The recent summer has blotted out the memory of fine weather and adds gusto to a study of a fascinating pamphlet[2] recently issued by the Meteorological Office, which gives the monthly normals of rainfall (1881-1915) for nearly 600 stations, along with the height above sea-level and the latitude and longitude. At the end of the report there is an alphabetical index with page references, which will enable the prospective holiday-maker to plan a 1925 holiday in areas which are relatively dry without being low-lying or swept by bitter winds. Seathwaite (at an elevation of 422 feet) has an annual rainfall of 129·48 inches in startling contrast to Shoeburyness (elevation 13 feet) with 18·87 inches. Regarding London the index is dumb, but the information sought will be found under Camden-square (24·47 inches), Greenwich (23·50 inches), and so forth. Many people think, not without reason, that mountains mean heavy rainfall. In the whole of Scotland there are few spots so beautiful as Glenquoich (elevation 569 feet) with a rainfall of 110·75 inches. Yet at Grantown-on-Spey (elevation 700 feet) rainfall is nearly four times less (31·15 inches), although the elevation is greater and the scenery at least as beautiful.

Wet and Dry Months.

Table I. is interesting as showing the general rainfall averages (in inches) month by month computed from isohyetal maps, from which emerge the following facts:—

Taking the British Isles as criterion figure (41·41), England (32·67) stands easily first in point of dryness, and Scotland (50·32) and Wales (50·14) are about equally bad from a wet point of view. April is pre-eminently the driest month, and October or December the wettest. Speaking of the British Isles as a whole, January, February, and March (10·26), and July, August, and September (10·22) might be described as average months, October, November, and December (13·16) as wet, and April, May, and June (7·77) as dry months.

TABLE I.—*General Rainfall Averages in Inches.*

—	Worst month.	Best month.	Year.
England	October, 3·69	April, 1·98	32·67
Wales	December, 6·00	May, 2·95	50·14
Scotland	December, 5·88	June, 2·83	50·32
Ireland	December, 4·96	April, May, 2·75	43·30
Isle of Man	December, 4·97	April, 2·47	42·30
England and Wales ..	October, 3·97	April, 2·12	35·23
British Isles	December, 4·72	April, 2·52	41·41

The London Balance-Sheet.

Table II. shows for London (Camden-square) the normal rainfall and the rainfall for the calendar years, 1921, 1922, 1923, and the first nine months of the present year.

TABLE II.—*Rainfall in Inches, Camden-square, London.*

Month.	1881–1915	1921	1922	1923	1924
January ..	1·86	2·48	2·81	1·28	2·75
February ..	1·67	0·18	2·20	3·04	0·65
March	1·83	1·19	1·51	2·39	0·73
April	1·54	1·29	3·02	1·37	3·14
May	1·76	1·03	0·83	2·28	3·14
June	2·02	0·37	1·12	0·42	2·47
July	2·38	0·13	3·85	3·24	5·69
August	2·21	1·65	2·54	2·01	2·72
September ..	1·82	2·50	2·13	1·29	2·59
October ..	2·63	0·63	1·02	5·94	—
November ..	2·36	2·01	1·43	1·46	—
December ..	2·39	1·13	3·14	2·31	—
Year	24·47	14·59	25·60	27·03	23·88 for 9 months.

At the end of 1921 the deficiency in the rainfall was 9·88 inches. The rainfall for 1922 was 25·60, an excess only of 1·13, reducing the 1921 deficiency to 8·75 inches. In 1923 the rainfall was 27·03, an excess of 2·56, bringing the 1922 deficiency to 6·19 inches. The 1924 rainfall is 23·88 for the first nine months, and if we assume *normal* rainfall for the last three it will amount to 31·26, an excess of 6·79 inches which would wipe out the deficiency and leave 0·60 inch to the good. For the 24 hours ended 9 A.M. Oct. 1st, 1924, 0·44 inch of rain fell, but this is included in the September total. Up to 9 A.M. Oct. 9th, an additional 1·05 inches have fallen (Camden-square). In many parts of the country, however, much heavier falls have been recorded.

Notable Records.

Not much can be said against 1922, or even 1923, as regards the rainfall, but certainly the last six months of 1924 have been depressing. During these months, when genial sunshine and fine weather are generally expected, the rainfall has amounted to 19·75 instead of a normal of 11·73 inches. A number of incidents of meteorological importance have occurred during the years under consideration. In January, 1910, Paris suffered from serious and alarming floods. At the close of 1923 and the beginning of 1924 a similar visitation was experienced, and for a time the position was fraught with grave anxiety. April, 1924, was a most inclement month, excepting the Easter week-end, which was gloriously fine. On May 1st London was bathed in a fog and the Rivers Thames and Lee were in flood. July hit Hampstead very hard, 7·6 inches of rain fell during the month, the largest recorded fall in any month since observations began there in 1858. There was a terrific thunderstorm in the London area on July 22nd, and at the climax of the storm at Hampstead 0·36 inch fell in two and a half minutes. The rainfall at Cannington, near Bridgwater, Somerset, for the 24 hours ended 9 A.M.

[1] THE LANCET, 1922, i., 148.

[2] Air Ministry. The Book of Normals of Meteorological Elements for the British Isles for Periods ending 1915. Section V.: Monthly Normals of Rainfall. H.M. Stationery Office. 1924. Price 4s.

on August 19th, was 9·04 inches, a record which has only once been surpassed (9·56 inches at Bruton, Somerset, on June 28th, 1917). Other phenomenal falls of rain within 24 hours have been 8·20 inches on Oct. 11th, 1916, at Loch Quoich (Inverness), and 8·03 inches on Nov. 12th, 1897, at Seathwaite (Cumberland). On July 9–10th, 1923, a terrific thunderstorm broke over London. In six hours there were 6924 flashes of lightning, an average of 19 per minute, and 2·10 inches of rain fell at Camden-square. In 1914 a waterspout produced the most disastrous results near Carr Bridge (Inverness), and on July 8th, 1923, the same locality suffered again in much the same way.

Weather Psychology.

There can be no question of the influence of weather on health. There are the now familiar object-lessons of Alton and Hayling Island, and the rays of the sun are being used more and more each year to ameliorate pathological conditions and to prevent the occurrence of disease. The effect of exposure to strong prevalent rain-bearing winds on early cases of phthisis has again been emphasised recently.[2] At the same time, we must preserve a sense of proportion, and remember that one of the charms of our climate is its variability. Ever since the glorious year of 1921, the man in the street is convinced that the weather has been disastrously wet. It may be that the psychology of the nation has been changed as a result of the war. The late Sir William Osler, among his many charming attributes, refused to allow the weather to ruffle his feelings. He saw beauties in Nature at all seasons; snow, sleet, and rain were to him but variations of an admirable whole. We think the absence of sunshine, the usual corollary of wet weather, has a depressing and therefore a bad influence on our lives, but where in the past we used to complain of the weather with a latent smile, we complain now with a scowl. Summation of such stimuli may drive us into the hands of the alienist, and that is happening to some of us in regard to the weather. The "grouse" becomes a sort of "hymn of hate" which grows in intensity each time it is sung. Curse the weather a little more vehemently each time and you become a "weather hog." The sooner we all cultivate the Mark Tapley spirit, the sooner shall we reach the serenity of past years.

THE LONDON MEDICAL EXHIBITION.

A REVIEW OF THE EXHIBITS.

(*Concluded from p. 781.*)

THE London Medical Exhibition closed after a successful session on Friday, Oct. 10th. In a previous issue we dealt with the large display of Drugs and Foods*; this week we notice the principal Surgical Apparatus and Instruments, Milk and its Preparations, Spas and Waters, Medical Books, and other things of medical interest which do not fit in to any general classification.

Surgical Apparatus and Instruments.

On entering the upper hall of the exhibition one of the first objects to attract attention was the "Westminster-Eidinow" Sun Ray Arc Lamp for Actino-Therapy which is equally efficient on alternating or direct current (Agents: ALLEN AND HANBURYS LTD.). It has a powerful long flame rich in ultra-violet rays, the proportion of which can be increased or lessened by the use of varying electrodes. The National Institute for Medical Research recently called attention to the value of arc-light baths (THE LANCET, 1924, i., 1290), and we understand that the lamp has been ordered by 16 large hospitals or sanatoriums.—X RAYS, LTD., incorporating F. R. Butt and Co. (11, Torrington-place, Gower-street, W.C.), attracted a large number of visitors by reason of their display of apparatus of practical utility, all of which were of British manufacture. Chief place must be given to an ingenious tube stand specially designed to carry the additional weight of protection called for in the latest N.P.L. specification, without sacrificing any of the advantages of lighter tube stands. It allows of all necessary movements above and below the couch, and the detachable end box can be rotated in any direction by means of easy-working universal joints. Another piece of apparatus of merit was the new model combined couch and screening stand, while the thermotank—practically an electrically-heated water-bath—for developing films at a constant temperature evoked much commendation.—THE GENERAL RADIOLOGICAL AND SURGICAL APPARATUS CO., LTD., incorporating M. Schaerer, S.A. (204–206, Great Portland-street, W.), in addition to high-pressure sterilisers, baby incubators, hospital furniture, and surgical instruments showed the Dental Heliodor, a complete self-contained X ray unit, the Neo-Thermoflux, a diathermy apparatus embodying the latest improvements, and the original Hanau Quartz (ultra-violet) and radiant heat lamps.—The exhibit of films by KODAK, LTD. (Kingsway, W.C.), also attracted much attention. On the wall were displayed some beautiful 14 × 17 negatives and enlarged dental prints of quarter-plate size. The improvement in the "Dupli-Tized" X ray film negative due to the use of the Potter-Bucky diaphragm was clearly shown, and the large number of photographic X ray accessories made this exhibit a most interesting one.

The stall of DOWN BROS., LTD. (21 and 23, St. Thomas's-street, S.E.), afforded an opportunity to the medical practitioner to select those instruments or appliances which might be particularly adapted to his or her requirements, for here, among a general collection of surgical apparatus, were many new instruments recently introduced, and modifications of existing patterns carried out at the suggestion of surgeons. Many of this firm's instruments are made in stainless steel. Notable features of this exhibit were the "Up-to-Date" Operation Table with oil pressure pump for raising and lowering and with other controls which can be easily operated by the anæsthetist; and a portable apparatus for tracheal insufflation anæsthesia.—MAYER AND PHELPS ("Chiron House," 59–61, New Cavendish-street, W. 1). Here also a good selection of instruments could be made, including the "Chiron" Dissecting Forceps, designed to give delicacy of control and not to tire the surgeon's hand, the Gillies' Suture Forceps and Scissors combined, and a new syringe for local anæsthesia. Though only shown by a photograph particular attention was drawn to the "Empire Operation Table."[1]—The SURGICAL MANUFACTURING CO., LTD. (83 and 85, Mortimer-street, W.), in addition to the "Barton" Sphygmomanometer, of which they made a special feature, exhibited a large assortment of surgical instruments and hospital and consulting-room appliances. The "Barton" electric Auroscope and the "Servic" high-pressure Steriliser were examined with great interest by many visitors.—Many ingenious contrivances were shown by the "AURORASCOPE CO.," LTD. (18–19, Fulwood House, Fulwood-place, High Holborn, W.C.), for use by the aural or ophthalmic surgeon and by the general practitioner. Much interest was shown in the Standard Morton Ophthalmoscope convertible and re-convertible at will into the electric Fundus Auroscope and in the Pocket Urinary Outfit containing reagents with which anyone can test at the bedside in a few minutes.—Surgical dressings, ligatures, and dental requisites were shown by FASSETT AND JOHNSON (Seabury and Johnson Preparations, 86, Clerkenwell-road, E.C.), particularly noticeable being "Meads" Rubber Adhesive Plaster, "Gold Cross" Absorbent Cotton, Wintergreen Plasters, and a boil plaster of red lead, camphor, and olive oil on a base of boric lint.—Various appliances for defects of the feet were exhibited by the SCHOLL MANUFACTURING CO., LTD. (1–4, Giltspur-street, E.C. 1), and H. E. CURTIS AND SON, LTD. (7, Mandeville-place, W.), had an excellent selection of abdominal supports and belts, trusses, elastic hosiery, and so forth. Colonial Liquid Paraffin of extra high viscosity for use as an intestinal lubricant was also shown by this firm in tasteless and flavoured forms.—DOMEN BELTS CO., LTD. (456, Strand, Charing Cross, W.C.), showed a large selection of belts based on physiological and anatomical considerations for use in pregnancy, accouchement, umbilical hernia, and floating kidney. Particularly noticeable was a hypogastric and gastroptosis belt for employment in cases of extreme corpulency and of pendulous abdomen. By the use of a peculiarly constructed flexible steel spring with a well-cushioned pad an equitable and gentle pressure is maintained immediately above the pubes.—A big display of microscopes for biological, histological, and research purposes, as well as for microphotography, attracted a constant crowd of visitors at the stand of CHAS. HEARSON AND CO. (68,

[2] W. Gordon, M.D.: Wet Winds and Early Phthisis, The Medical Officer, 1924, xxxi., 158.

* In this report Saccharomycin, a well-known product of the British Organotherapy Co., Ltd., was inadvertently attributed to Messrs. Allen and Hanburys, Ltd.

[1] THE LANCET, 1924, ii., 51.

Willow-walk, Bermondsey, S.E.), where there was a fine collection of biological and other apparatus used in research work. In particular, good pattern microtomes, freezing and recording apparatus were exhibited. The frequent microscopical demonstrations were much appreciated. A new and extensive catalogue of the physiological, pathological, botanical, and similar apparatus made by this firm is in the press.—"Tycos" Sphygmomanometers, portable and surgical types, were shown by SHORT AND MASON, LTD. (Aneroid Works, Walthamstow, E.), one of their chief features being that there is no glass tube to break. The surgery type has a 6-inch dial and the size enables more accurate observations than are possible with a smaller type. It is designed to be used on the table or fastened to the wall.—The display of clinical thermometers by G. H. ZEAL, LTD. (75–77, St. John-street, E.C., and 29, St. John's-lane, E.C.), attracted attention by reason of some ingenious contrivances for resetting the instruments. The "Repello" is an ordinary clinical thermometer with a flattened bulb of flexible glass, this on being pressed between the finger and thumb forces a column of quicksilver down the bore, which on coming in contact with the buffer of gas between the two columns forces the registering column back below the divisions. The "Acello" is a pocket thermometer in which the centrifugal principle is used to reset the instrument.

Among appliances for the deaf particular interest was shown in the stand of GENERAL ACOUSTIC CO. (Acousticon House, 18, Hanover-street, W.), where there were shown electrical and non-electrical aids for the deaf in large variety. One of the latest introductions of this firm is a microphone made in tortoise-shell, weighing 1½ oz. only, which can be worn under the tie or within a lady's dress without inconvenience. The receiver is equally light. A form suitable for medical men, in which the telephone earpiece with a push button for conveniently and quickly turning the current on and off, can be carried in the waistcoat pocket and instantly attached to a very light head band when required for use. Other notable exhibits were a wireless box 'phone for the deaf, acousticons concealed in dainty vanity bags for ladies' use, church sets consisting of a microphone for use near to the preacher while the receiving apparatus is distributed among the deaf in the congregation, and a judge's acousticon for use on the bench.—At the stand of the DEAF APPLIANCE CO., LTD. (58–60, Wigmore-street, W. 1), many electrical and non-electrical instruments for the deaf were shown, among which was the Micromega, a small receiver which fits easily into the ear and does not require to be held. This instrument is recommended in suitable cases for nerve deafness or slight middle-ear deafness. The Earlux is made in different types for portable or table use.—At the stand of "ARDENTE ACOUSTIQUE" (95, Wigmore-street, W.), who make some 30 different types of their apparatus to relieve definite and specific conditions of deafness, attention was drawn to the "Ardenta Acoustique" Stethoscope specially designed for doctors suffering from deafness, and the "Ardente Acoustique" church installation which makes it possible for deaf people to join in the service from any part of the building.

Much interest was shown in the British Benedict Metabolism Apparatus, HERBERT E. KENDRICK (3, Morley-avenue, Highams Park, E.), an apparatus designed to meet the needs of physicians who require a portable outfit for use in hospital, consulting-room, or patient's home. The basal metabolic rate is determined at the bedside by measuring the amount of oxygen consumed during a known period. Comparison with a chart showing average normal consumptions, followed by a simple calculation, gives the plus or minus metabolic rate. Results are obtained without analysis, and no breathing bag, meter, or electric current is required. The instrument can also be used as a vital capacity spirometer, or for the administration of medicinal oxygen.

Milk and Milk Foods.

The stands exhibiting milk and milk foods included GLAXO (56, Osnaburgh-street, N.W.), whose interesting display of their products—Glaxo Standardised Full Cream, Three-Quarter and Half Dried Milk, Prescription Glaxo (Humanised), Glax-Ovo,[2] and Ostelin—were a centre of inquiry. Ostelin is a new product consisting of an antirachitic extract of cod-liver oil diluted with glycerine so that three drops of the glycerine suspension are equivalent to a teaspoonful of cod-liver oil.—HORLICK'S MALTED MILK CO. (Slough, Bucks) showed their well-known preparations the vitamin content of which was pointed out to visitors. The various preparations of this company form easily digested and highly nutritious diet for invalids, convalescents, and infants.—The WEST SURREY CENTRAL DAIRY CO., LTD. (Cow and Gate House, Guildford, Surrey), demonstrated their methods of preparing dried milk. The raw milk is supplied by prize Dorset and Somerset herds.—TRUFOOD, LTD. (The Creameries, Wrenbury, Cheshire, and Lever House, Blackfriars, E.C.), showed Humanised Trufood, Trufood Full Cream, and Secway (Sweet Whey Powder); while at the stand of THEW, HOOKER AND GILBEY, LTD. (Buckingham), Hooker's Malted Milk, a food beverage prepared from pure fresh cream milk combined with extractives of selected cereals was exhibited. The analysis shows moisture, 1·50 per cent.; mineral salts, 3·50 per cent.; maltose and lactose, 55·80 per cent.; dextrine, 16·00 per cent.; protein, 14·00 per cent.; and fat, 9·20 per cent.

[2] Glax-Ovo, THE LANCET, 1924, ii., 662.

Spas and Waters.

BATH, famous from Roman times to the present day, which, if for that reason alone, can claim to be the premier spa of the Empire, was well represented by an attractive exhibit of books and pictures. The latest addition to this bathing establishment is a Zander institute for medico-mechanical treatment.—BUXTON, with its chalybeate waters, is another place known to the Romans, where in Tudor times Mary Queen of Scots, suffering from rheumatism, visited for relief. This watering place was also well represented by descriptive literature and pictures.—DROITWICH, England's brine baths spa, drew attention to its facilities for treating rheumatism, gout, neuritis, and certain forms of heart and nervous disorders, among other ailments.—At HARROGATE two new departments have been installed, one for nose and throat treatment, and the other for the mountain sun treatment, with the mercury vapour lamp. A pamphlet giving a summary of the Harrogate waters and treatment has been compiled by the Harrogate Medical Society and can be obtained from the Corporation Wells and Baths Department. Similar literature, it may be mentioned, can be obtained from the other English spas mentioned, as well as from TORQUAY, described as England's premier marine spa, where special treatments are Torbay seaweed baths, Dartmoor peat baths and packs, and Pistany radio-active mud baths and pack, while there are other treatments numbering nearly 40.

The attractive exhibit of INGRAM AND ROYLE, LTD. (Bangor Wharf, 45, Belvedere-road, S.E.), abundantly proved that the scarcity of Carlsbad water, the result of war conditions, no longer exists in this country. Its Czecho-Slovakian origin is emphasised by the labels on the bottles. Bottled waters in great variety were shown by this firm, who are exporters of natural mineral waters, salts, and pastilles. The French natural mineral water Vichy Célestins had a prominent place in the exhibit.

Medical Books.

Medical books were shown by BAILLIÈRE, TINDALL AND COX (Henrietta-street, Covent Garden, London, W.C.); WILLIAM HEINEMANN (MEDICAL BOOKS), LTD. (20, Bedford-street, London, W.C.), who also exhibited specimen tubes of pure glycerinated calf lymph; H. K. LEWIS AND CO. (140, Gower-street, London, W.C.); and by STANLEY PHILLIPS, (48, Brondesbury-road, London, N.W.).

Miscellaneous.

CADBURY BROS., LTD. (Cocoa and Chocolate Manufacturers, Bournville, Birmingham), exhibited their specialty and showed an interesting collection of the raw material in its different forms.—The JAEGER CO., LTD. (95, Milton-street, E.C.), demonstrated the health-conducing properties of their pure wool fabric, and called attention to a specially woven double material holding a layer of air between its inner surfaces.—The exhibit of the GAS LIGHT AND COKE CO. (Horseferry-road, Westminster, S.W.) demonstrated economical and effective solutions of the smoke problem.

CLERICAL, MEDICAL, AND GENERAL LIFE ASSURANCE SOCIETY.—The centenary year of this society is being celebrated under good auspices, for the report, which was presented at the hundredth annual general meeting on Oct. 10th at the society's offices, 15, St. James's-square, London, S.W., was satisfactory both in regard to business and financial progress during the year which ended June 30th, 1924. The new assurances numbered 1518 for the total sum of £1,617,691, and the net new life business was £1,324,691, as compared with £1,210,064 in the previous year. The total premium income showed the large increase of £41,184, and reached £609,492. The net rate of interest earned after deduction of income tax was £4 13*s.* 2*d.* per cent. The claims by death amounted to £348,737. As the result of the year's transactions the Life Assurance Fund showed an increase of £467,267, and now amounts to £7,961,035.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Meat Poisoning in Germany.

THE Health Office has published a report dealing with meat poisoning in Germany during the year 1923. According to the report 61 epidemics of meat poisoning occurred with a total of 3090 cases, of which 20 were fatal. In 59 per cent. poisoning followed upon the consumption of minced meat, and in 4 cases frozen meat had been consumed. Bacteriological investigation revealed paratyphus bacilli in 29 cases, *Bacillus enteritidis* Gaertner in two, *Bacillus enteritidis* Breslau in one, *Bacillus botulinus* in two, *Bacterium proteus* in three, *Bacterium coli* in two, and putrefactive bacilli in three. In three instances no micro-organisms could be detected, and in the remainder no bacteriological investigation was carried out. The month of August had a record of 14 epidemics, the remaining 47 being spread over the other months.

The Journal of the German Medical Women's Association.

The German medical women have formed an association of their own. This association has begun to publish a new quarterly journal as its official organ, under the editorship of Dr. Heusler-Edenhuizen and of Dr. Laura Turnau, who had both represented Germany at the recent International Congress of Medical Women in London. The aims of the association are described in the first number as follows: To promote the union of the medical women of Germany, to discuss questions of social hygiene from the standpoint of the medical women, to care for invalid medical women who are unable to work, and to give advice to younger medical women and women medical students. The association will be a branch of the International Medical Women's Association. The first issue contains an introductory letter of Dr. Francisca Tiburtius, the oldest medical woman in Germany, and Prof. Lydia Rabinowitsch-Kempner contributes an article on the work of the medical women in the fight against tuberculosis.

Sixth Congress of the German Society for Urology.

This Congress was held in Berlin from Oct. 1st to 4th, and was opened by Prof. Karl Posner (Berlin), who read a paper on the medico-social significance of urology. It was, he suggested, preferable to consider many of the symptoms arising from disease of the urogenital system as indications of some constitutional weakness—such symptoms, for example, as enuresis, bladder weakness in women, and albuminuria. The results obtained by Rosenstein by means of pneumo-cystography were worthy of particular note. In this procedure the pre-vesical space and then the bladder itself was filled with oxygen. This procedure was indicated where there were strictures in the urethra, and was useful in showing up tumours in the region of the bladder. Dr. Blum (Vienna) gave a report of clinical observations of normal and pathological ureters. Reflux of urine from the bladder into the ureter occurred in three types of condition: (1) where the urinary apparatus was normal and there was a strong pressure in the bladder as occurred in hypertrophy of the prostate; (2) in diseased conditions of the openings of the ureter—e.g., wounds from ureteral calculi and in spinal affection, such as tabes; and (3) where there was anti-peristalsis in the ureter caused by mechanical or thermal stimuli. An explanation was thus offered for many cases of ascending infection. Reflux of urine also occurred where there was a certain rigidity of the ureter, and, further, where one kidney was damaged so that the urine from the other kidney ascended the ureter of the damaged kidney and caused infection. Added to these was the condition of congenital permanent reflux in the ureter known as "megalo-ureter." Prof. B. Bloch (Zürich) considered that palpation of the ureter per vaginam was an important diagnostic aid. If only one ureter could be palpated it could be regarded as pathological, especially if tuberculosis were suspected. According to Stöckel, every palpable ureter was a pathological one. Prof. H. Kümmel (Hamburg) spoke of the surgical treatment of nephritis. He said that the operation of decapsulation had only slowly come into its own, and its successes were on the increase. This operation was first performed (through a mistaken diagnosis) by Harrison, who was later followed by Israel in Berlin, Rovsing in Copenhagen, and Edebohl in the United States. He said that it was not likely that a new collateral circulation was established when the kidney was decapsulated. The action of the nervous system on the decapsulated kidney was important. A great number of sympathetic twigs were found connected with the renal artery. His own experience with the section of the sympathetic nerves of the organ, which had lately been attempted, showed that a considerably improved blood-supply of the kidney was obtained. Indications for surgical interference were (1) nephritis after acute infectious disease, of vital importance if anuria were present; (2) toxic nephritis, including eclampsia, and (3) acute infectious nephritis in its various degrees. Renal calculi often gave the indication for decapsulation. Prof. F. Volhart (Halle) opposed the views of Prof. Kümmel, and questioned whether surgical interference in nephritis was justifiable.

Infectious Diseases.

Infectious diseases have shown a considerable decrease in 1923. Diphtheria has decreased by 6000 and scarlet fever by 5000 cases, puerperal fever from 6422 to 5592, trachoma from 1522 to 1192, trichinosis from 110 to 25 cases. On the other hand, typhoid fever has increased from 10,992 to 13,162 cases, and hydrophobia from 52 to 65 cases. Encephalitis lethargica was notified in 271 cases, this being the first time that the notification of this disease was compulsory. As to small-pox, a report of the Health Office of the period from 1919 to 1921 states that 5021 cases of the disease occurred in 1919, an extremely large figure compared with the former state of things; in 1920 and 1921 the number fell again to 2115 and 689 cases respectively. The case-mortality fluctuated between 14·1 and 16·7 per cent. The cause of the great number of cases in 1919 was that during the revolutionary troubles of that year many unvaccinated foreigners from abroad entered Germany without permission, and that the control of vaccination had been much relaxed. The mortality among the unvaccinated or people vaccinated a long time ago has been greater than among the recently vaccinated.

The German Red Cross.

The German Red Cross, which was formerly to a great extent an auxiliary force of the Army Medical Corps, has now entered on a new sphere of activity. It assists the Government in the care of invalids, in the prophylaxis and treatment of epidemics, and in the care for the general health. For that purpose it continues to train nurses, professional as well as voluntary (the latter doing service only in cases of epidemics and urgent occasions), male attendants, laboratory assistants, and disinfectors. It also maintains depots of sanitary appliances and of dressing materials, and arranges for popular lectures on hygiene. 390 hospitals and convalescent homes and 500 creches are connected with the Red Cross or managed directly by its local branches. 12,000 parish nurses work in 1294 parishes among the indigent classes. The women's organisation of the Red Cross has 2000 branches with 800,000 members. The badge of the Red Cross is, according to the law, a privilege of the Red Cross Association. Only societies belonging to or connected with that organisation may use the badge. The badge was formerly granted by the war office, but now that under the Versailles treaty the Red Cross is independent of the Army Medical Department, it is awarded by the Ministry for Home Affairs.

Public Health Services.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

THE following table gives some of the statistics of four counties and three combined county areas for 1923 :—

Name of area.	Estimated (R.G.) mid-year population.	Birth-rate.	Death-rates per 1000 of the population.				Death-rates per 1000 births.		
			All causes.	Tuberculosis.	Cancer.	Resp. diseases with influenza.	Neonatal mortality.	Infant mortality.	Maternal mort. from childbirth.
Hertfordshire.	337,800	17·2	9·6	0·7	1·4	1·6	25	42	2·9
Cumberland ..	219,720	21·1	12·7	1·0	1·2	1·9	34	74	5·6
Cambridgeshire (excluding B. of Cambridge)	70,640	17·4	12.2	0·8	1·5	1·6	33	56	7·3
Fife	109,645	21·5	11·3	0·7	1·0	1·4	38	76	6·6
Herefordshire Comb. D. ..	50,543	20·2	12·7	0·9	1·4	1·6	35	60	6·0
W. GloucestershireComb.D.	48,443	19·7	10·6	0·8	0·9	1·5	31	44	5·2
S. W. Kent UnitedHealth Area	79,858	18·0	11·6	0·8	—	—	—	44	5·6

Hertfordshire.

Dr. H. Hyslop Thomson states that in more than 30 per cent. of the cases of pulmonary tuberculosis visited the patient occupied a bedroom with two or more other persons. This, he says, indicates the existence of overcrowding and the urgent need for additional houses. The County Council have prepared a scheme for promoting the welfare of blind persons which came into operation on April 1st, 1923, and is in addition to the provisions made by the education authority. In carrying out the scheme, the County Council have secured the coöperation of the County Nursing Association and the Hertfordshire Association for the Blind. The register of blind persons in the county contained at the end of the year 304 names, 137 being males and 167 females. The work of ascertaining and dealing with mental defectives has been continued during the year. Ninety-eight mental defectives were reported to the medical officer, 54 being males and 44 females. Of the 98 cases, 9 were defective and epileptic, 4 were epileptic, and 22 either dull and backward or suffering from some form of physical defect associated with backwardness. The absence of adequate accommodation in certified institutions, more especially for low-grade and complicated cases, is seriously felt from time to time. In the maternity and child welfare work the voluntary centres are linked up to the Council scheme with excellent results. There is a decided increase in the number of children and mothers who have had dental treatment. Ten nurse-midwives were trained at the Watford Training Home during 1923, and the County Council grant of £500 has been given to the County Nursing Association. 2685 confinements were attended by midwives alone. There are 147 midwives practising in the county, 142 trained and 5 untrained. The midwives paid 10,680 antenatal visits, and six maternal deaths occurred among their cases. Dr. Thomson reports that the regulations suggested by the Ministry of Health have lessened the nuisance caused by the dumping of outside refuse in the county. A further improvement has resulted from the action of the Ministry in securing the covering of railway wagons which convey rubbish into the county. Improved arrangements for the removal of refuse in the county itself are needed.

Cumberland.

Dr. F. H. Morison reports that there is great difficulty in getting patients to accept sanatorium treatment for tuberculosis at a time when the treatment would be most hopeful. The supply of milk to expectant and nursing mothers and young children has had to be continued on a fairly large scale owing to unemployment in the west of the county. Dr. Morison draws attention to the wide powers granted by the Maternity and Child Welfare Act of 1918, and expresses his regret that neither the medical nor the nursing staff is adequate to carry out anything like a complete scheme. Dr. Mark S. Fraser submits the report of the Englethwaite Industrial Colony, in which he points out that industries are necessary in the treatment of pulmonary tuberculosis, that they are more valuable as part of the treatment than as a preparation for new occupations, and that only under exceptional circumstances can they be self-supporting. Nevertheless, the after-care report shows that of 34 men who are working and earning a living, 15 are working at trades learned in the colony, 6 at their former employment, and 13 at other occupations.

Cambridgeshire.

Dr. Frank Robinson states that there are now only three untrained registered midwives practising in the county as compared with 44 when the Midwives Act of 1902 first came into operation. Through the County Nursing Association the area of the county unserved by nurses is gradually being reduced. Since the war ten new associations have been assisted to start work in 20 rural parishes. The proportion of midwives' confinement cases in which medical aid has been summoned has increased from 5·2 in 1919 and 7·1 in 1922, to 9·1 in 1923. The visiting of expectant and nursing mothers and children under school age by the staff of the nursing associations shows a considerable increase. This work is important in rural areas where a welfare centre is not a practical proposition. The visits to expectant mothers have been useful in securing special medical assistance when necessary at Addenbrooke's Hospital, and also in securing dental treatment. The County Council have no maternity and child welfare centres under their direct management, but make grants in aid to centres carried on by voluntary agencies in rural parishes. Home helps provided by the County Nursing Association are also subsidised, but there is difficulty in getting suitable women to undertake this work. Six additional open-air shelters with bedding outfit have been purchased, bringing the total provision up to 135. Since the receipt of the Ministry's circular on after-care a provisional sum has been included in the estimates, and it has been decided to confer with the After-care Association as to the best way of complying with the suggestions of the Ministry. Most of the male consumptives who receive institutional treatment are provided for at Papworth. Dr. Robinson compares the economic value of providing treatment for lung consumptives and bone and joint cases respectively, and emphasises the loss to the community caused by permanent crippling in the latter cases. The report on the Sale of Food and Drugs Acts reveals the usual inadequate penalties for adulterating milk. In two cases where there was 10 per cent. of added water, the penalties were 10*s.* with 15*s.* costs and £1 with 10*s.* 6*d.* costs respectively. The annual reports of the district medical officers of health refer to the impossibility of dealing with houses which are overcrowded or unfit for habitation. In the Newmarket rural district cottages with three bedrooms are badly wanted. The Chesterton council are endeavouring by means of the subsidy and the proceeds of a penny rate to build cottages to be let at a rent that the labourers can pay, but are finding it a difficult task. Comparing the Census results of 1911 and 1921, all the districts in the administrative county, with the exception of the borough of Cambridge and the rural district of Chesterton, show a decreased population.

County of Fife.

Dr. G. Pratt Yule's report deals with the conditions of the districts Cupar, Dunfermline, Kirkcaldy, and St. Andrews, which make up the landward area of the county. The regulations for the notification of chicken-pox terminated at the close of the year. During the last two years the cost of drugs prescribed for the treatment of tuberculosis has been defrayed by the county. The number of prescriptions issued by a small minority of practitioners (about 1 in 10) suggests to Dr. Yule that prescribing with them is a routine habit intended as a placebo for the patient. The tuberculosis officer, Dr. G. M. McGillivray, emphasises the value of the health visitors in improving the environment of the consumptives. He also states that there is a tendency to notify cases at an earlier stage, and that quite a large number of practitioners now notify "suspects." The improvement in home conditions after return from a sanatorium is evidence of the great value of the sanatorium as an educator. Dr. W. P. S. Johnson, the V.D. medical officer, shows that the dispensary opened in Dunfermline in November, 1922, has been very successful in attracting patients both male and female and in securing their continued attendance. During the year only 10·2 per cent. of the cases ceased to attend before completing their course of treatment, and Dr. Johnson thinks this favourable result is due to the method adopted of scrutinising the case cards monthly and writing under confidential cover to the defaulters. Every endeavour is made to treat the source of infection in the case of congenital disease, and in some such cases whole families have been examined. Towards the end of the year a number of boroughs were invited to grant facilities for lectures to men and to women on the evils of venereal diseases, but the majority appeared to be averse to such teaching. Under maternity and child welfare work, Dr. Yule says there are eight nurses working whole-time in the capacity of health visitor, tuberculosis nurse, and assistant inspector of midwives within the districts Dunfermline, Kirkcaldy, and St. Andrews and the ten boroughs therein, but that this service does not exist in the Cupar district. There are no centres, and Dr. Yule thinks that centres have unsatisfactory features apart from the fact that they do not attract the mothers whom it is most desirable to reach. Two midwives were reported to the Board; one of them was put on probation, the other was the only midwife in a wide and sparsely populated district, and in these circumstances no action was taken. The facts of two cases where unqualified women were in attendance at confinements were reported to the Procurator-Fiscal, who held that the provisions of the Act on emergencies covered one case, and the words "under the direction of a registered medical practitioner" the other, so no action was taken. No application has yet been received to sell a designated milk within the county area. Dr. Yule does not think it is feasible to enforce the meat inspection regulations of 1923 in scattered county districts with private slaughter-houses situated frequently many miles apart.

Herefordshire.

Dr. Herbert Jones points out that it is a constant practice to complete the building of a cottage before ascertaining whether there is any suitable water-supply available. About one-fourth of the cottage houses are supplied from distant sources, and the task of achieving a proper standard of cleanliness is thus made difficult. No site, he says, should be considered suitable for building if there is not a supply of water on it. There is much negligence in all parts of the district with regard to the protection of dip wells. As a rule there is no difficulty in making these wells safe by enclosing them and providing an outlet by a pipe to slightly lower ground. The slop-drains from far too many cottages discharge into the nearest roadside ditch, and even in the case of newly erected houses this practice has been permitted. Dr. Jones has no sympathy with occupiers who complain that their pail closets are offensive or a nuisance. The remedy is in their own hands, as pail closets can be readily used as earth closets. There were 27 new houses erected during the year. In many parishes more houses are required. The regular inspection of houses has been in abeyance owing to the high cost of repairs. Dr. Jones thinks it should now be resumed. The rural housing problem is not an easy one to solve. Dr. Jones thinks the State might give assistance by providing expert engineering advice for the provision of rural water-supplies and sewage disposal works. He believes that a great deal can be done to reduce cost by mass production and scientific organisation. Subsidies or grants from the State, he says, will never reduce the cost of building; on the contrary, they have always sent it up. From 10,000 to 12,000 men, women, and children come into the combined district for about four weeks in August and September as hop-pickers. All sorts of out-buildings are used for their accommodation, though on an increasing number of farms there are specially erected buildings. Bye-laws with respect to the accommodation of hop-pickers have been adopted with great advantage by the Hereford, Leominster, and Weobley districts, but the Bromyard and Ledbury councils have not yet come into line. Dr. Jones reports that in the various districts little attention is given to cleanliness in the matter of milk production.

West Gloucestershire.

Surgeon-Captain O. W. Andrews reports that there was a considerable number of cases of small-pox during 1923. The bulk of the cases were in the East Dean district. Of 188 cases notified, 161 were unvaccinated, 17 had not been vaccinated since infancy, 9 were vaccinated after contact, and 1 was said to have been vaccinated while a prisoner of war in Germany. There were no deaths. The mildness of the epidemic led many to think that it was not really small-pox, but Dr. Andrews has no doubt on the subject. The spots were more spherical than those of chicken-pox, and the distribution was quite different. In the cases of small-pox the spots were on the face, back, wrists, forearms, ankles, and legs, and very few on the chest or abdomen. In the chicken-pox cases the trunk was chiefly affected. Experience showed that if vaccination was carried out within the first three days of the incubation period, the symptoms of small-pox seldom developed. In cases vaccinated on and after the fifth day the vaccination was successful, the vaccinia and small-pox ran concurrently, and the severity of the small-pox appeared to be decreased. A considerable amount of vaccination was done in the affected schools, and Dr. Andrews estimates that half the children of school age are now vaccinated and that if to these be added the number of the recent sufferers from the disease some protection against epidemics should be afforded for some years. Forty-seven cases of typhoid and paratyphoid fever were notified. Careful inquiries were made as to possible food sources of the epidemic in which the Ministry of Health and the medical officer of health for the city of Gloucester (Dr. Ronald Berry) took part. No definite conclusion was reached, but the Ministry of Health discovered that in several outbreaks occurring in widely separated districts there was one article of food common to all those who had been attacked—viz., currants. It is suggested that currants are not always carefully washed, and that the protection afforded by the material in which they are embedded prevents them being sterilised during the cooking process.

South-West Kent.

Dr. S. Nicol Galbraith only began his duties on Sept. 1st, 1923, in succession to Dr. J. S. Tew, whose death occurred on Sept. 27th, 1922. Dr. Galbraith reports that the hop-picking season of 1923 passed without any serious outbreak of infectious disease. During this time the population becomes practically doubled, especially in the rural districts of Tonbridge and Maidstone. In Tonbridge rural district the normal population of 17,000 was increased to about 37,000. Before the arrival of the pickers the huts are thoroughly inspected and the water-supply and sanitary accom-

modation are seen to. The inspectors report that the accommodation for pickers is much improved during recent years. Good use has been made by the farmers of army huts and bell tents. The pickers bring their own sheets, blankets, and domestic utensils, while the farmers provide cooking sheds with benches and fuel. Most of the camps have company's water. Dr. Galbraith found one camp much overcrowded, and the people standing in a queue waiting for water from the one tap, which was situated in a quagmire. In some instances the scavenging and cleansing of the camps could be much improved. It is suggested that the camps might be run more on military lines, and that young farmers with army experience could readily introduce simple methods of camp sanitation and detail a few of the pickers to clean up and keep the camps in order. One farmer complains of the lack of supervision of the food sold by hawkers to pickers. Voluntary nursing and first aid is carried out by charitable organisations in several of the villages and this meets a great need among the pickers. Minor ailments such as scalds and burns are frequent among the children. "Much credit," says Dr. Galbraith, "is due to the doctors in the hop-picking areas on whom a great deal of work is thrown."

INFECTIOUS DISEASE IN ENGLAND AND WALES DURING THE WEEK ENDED OCT. 11TH, 1924.

Notifications.—The following cases of infectious disease were notified during the week, namely:—Small-pox, 55; scarlet fever, 2278; diphtheria, 1115; enteric fever, 150; pneumonia, 673; puerperal fever, 53; cerebro-spinal fever, 3; acute poliomyelitis, 35; acute polio-encephalitis, 3; encephalitis lethargica, 41; continued fever, 40; dysentery, 7; ophthalmia neonatorum, 128. No cases of cholera, plague, or typhus fever were notified during the week. The cases of continued fever were notified from Bethnal Green, the number there given is 10, the larger number mentioned in the total apparently being a misprint.

Deaths.—In the aggregate of great towns, including London, there were 9 deaths from enteric fever, none from small-pox, 10 from scarlet fever, 17 from diphtheria, 11 from measles, 21 from influenza. In London itself the diphtheria deaths numbered only 5, the deaths from infantile diarrhœa 28.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Surg. Comdr. R. M. Richards is placed on the Retd. List with the rank of Surg. Capt.

D. Duncan to be Surg.

J. G. Holmes to be Surg.-Lt.

ROYAL ARMY MEDICAL COLLEGE.

Capt. J. S. K. Boyd to be Asst. Professor.

ROYAL ARMY MEDICAL CORPS.

Maj. R. L. V. Foster to be Lt.-Col., vice Lt.-Col. E. E Parkes to half pay.

TERRITORIAL FORCE.

Capt. V. Townrow resigns his commn. and retains the rank of Capt.

ROYAL AIR FORCE.

The undermentioned are granted permanent commissions in the ranks stated: Flight Lt. T. McClurkin and Flying Officer C. V. D. Rose.

Flying Officer (hon. Flight Lt.) G. R. Hall is promoted to the rank of Flight Lt.

INDIAN MEDICAL SERVICE.

Lieut.-Col. J. H. Murray, C.I.E., acting superintendent of the Yeravda Central Prison, has been appointed Acting Inspector-General of Prisons. Major E. E. Doyle, acting superintendent of the Ahmedabad Central Prison, succeeds Col. Murray as Superintendent of the Yeravda Central Prison. Lieut.-Col. G. McPherson, C.I.E., has been granted a further extension of leave for six months. Major A. N. Thomas has been permitted to return to duty.

Capts. R. R. M. Porter, J. R. D. Webb, and A. C. Macrae to be Majs.

Monawar Khan Afridi to be temp. Lt.

Capts. Narendra Nath Ray (who retains the ranks of Capt.) and Gokal Chand Batra relinquish their temporary commissions.

The King has given to Lt.-Col. B. Biggar, R.A.M.C., His Majesty's Royal licence and authority to wear the Insignia of the Third Class of the Order of the Nile, which has been conferred upon him by the King of Egypt in recognition of valuable services rendered while employed with the Egyptian Army.

DEATHS IN THE SERVICES.

Surgeon-General Richard Henry Quill, C.B., A.M.S. (retd.), who died on Oct. 18th at Cheltenham at the age of 76, entered the army as assistant surgeon in 1872. He served in Afghanistan in 1879–80, and afterwards became senior medical officer of the Thames District. He later held a similar post in the Ceylon Command, and was then appointed to the administrative medical charge and P.M.O. at Netley. He retired in 1908 and received the C.B. in 1917. He leaves a widow and one son.

Medicine and the Law.

A Muddled Bequest.

THE late Mr. Robert Newton appears to have made his own will, or at any rate whoever did so failed to check accurately his property and his language in disposing of it before he died. Consequently his estate has been impoverished by the necessity to take out a summons in the Chancery Division, the arguments on which required the presence of counsel representing (1) the executors, (2) the Attorney-General, (3) the treasurer of the Imperial Cancer Research Fund and others, (4) St. Dunstan's Hostel and the Salvation Army, and (5) the Royal Free Hospital. The will gave a bequest to "The Society for Cancer Research," and no such body exists. It also gave to St. Dunstan's Hostel "My 50 ordinary shares in Mexican Eagle Oil Company," whereas at the time of the making of the will and of his death the deceased owned bearer certificates of 150 fully paid ordinary shares in the Mexican Eagle Oil Company. The residue of the estate of the deceased was left on trust for the St. Dunstan's Hostel, the Salvation Army shelters, London, and the Royal Free Hospital. Mr. Justice P. O. Lawrence made an order that by the "Society for Cancer Research," the testator meant the Imperial Cancer Research Fund. This, it will be noted, was in accordance with the doctrine by which on such occasions a *cy-pres* interpretation—i.e., one "as near as possible"—is taken to express the wishes of the testator. The legacy to St. Dunstan's Hostel, his lordship held, applied to the 50 shares in the Mexican Eagle Oil Company, and did not include the 150 shares. It was ordered that the costs of all parties as between solicitor and client should be paid out of the residue. How much of the estate would be left for distribution by this was not stated, but it is evident that the testator largely contributed to the defeat of his own benevolent intentions.

Inquest at a Mental Institution.

At the County Mental Institution, Devizes, an inquest was held recently on the body of Mrs. S. Salisbury, the wife of a gardener at Corsham, Wilts. The case had excited interest locally on account of efforts made by the husband of the deceased to obtain the discharge of his wife in order that she might be at home (or in the Chippenham Poor-law Institution), and on account of complaints made by him that he had not been sufficiently informed as to an accidental fall which his wife had had, resulting in injury to the upper end of the femur, as shown by post-mortem examination. The X ray examination of this had given the impression that there had been an impacted fracture, but the mental condition of the patient had prevented the obtaining of a satisfactory photographic print. A letter to the husband had informed him of the fall, but had not mentioned that a fracture had been sustained or was suspected. There was, however, in addition, a division of medical opinion at the inquest as to the necessity for retaining the deceased in the institution, and Dr. A. E. Peake,

who had endeavoured on behalf of the husband to obtain her discharge, was of opinion that she might have been allowed to return home. In the end the jury found that death was due to "disease of the brain and lowness of her general health as from the doctor's evidence," and added that "everything possible was done for the deceased by the authorities." The inquest appears to have developed, owing to the circumstances referred to, into something like an inquiry into the policy and conduct of the asylum authorities and the Board of Control in retaining Mrs. Salisbury at Devizes, and the fact that more definite information had not been given to the husband as to the injuries she had sustained was evidently partly the cause of this, and was to be regretted. The accident, however, was proved by the evidence to have had nothing to do with the death, and obviously the fall described, which might have taken place at any time and in any place, was much more promptly and efficiently dealt with in the institution than it could have been in the home of the deceased.

Rent of a Lock-up Surgery.

Numerous decisions have made it clear that premises which are used partly for business, trade, or professional purposes and partly as a dwelling-house, are regarded as a dwelling-house under the Rent Restriction Acts, if they were originally let at least partly as a dwelling. It is, however, also established that premises originally let for business purposes only and afterwards used either wholly or partly as a dwelling-house are not entitled to the protection afforded by the Acts. A correspondent consults us as to whether the rent of a lock-up surgery is restricted under the existing Acts. No doubt this depends largely upon the purpose for which the house was let to him. If, as is probably the case, it was let to him with the intention that the ground floor should be used as a lock-up surgery and the remainder as a dwelling-house, the whole of the premises could properly be regarded as a dwelling-house under the Rent Restriction Acts, for in that case the house would have been "let as a dwelling." On the other hand, in the case of McDougall *v.* Bell, heard on April 8th of this year, the facts were that a doctor had leased premises comprising four rooms, the lease providing that they were to be used for no other business purpose than that of a medical practitioner. The doctor used two of the rooms for professional purposes and the remaining two were occupied by a policeman and his wife, who acted as the doctor's caretaker and help. It was held that this was not a dwelling-house as the people who occupied the house dwelt there as the servants of the doctor who used the premises only for his business purposes. In this case, which is one of the latest on the point, Mr. Justice Acton said that the real main and substantial purposes of the user of the premises was a question of fact. Regarding the increased rent which is being asked from our correspondent, it is, of course, legitimate for the landlord, where a tenant sublets part of a house, to increase the rent payable by the tenant by an amount equivalent to 5 per cent. of the net rent of the part sublet, and in that case the tenant can increase the subtenant's rent by 10 per cent. of the net rent of the part sublet.

Medical Inspectors in Nullity Suits.

The President of the Divorce Court recently announced in court that the medical inspectors appointed for the purpose of nullity suits had resolved to give their services gratuitously in the cases of poor persons. This action on their part places them on the same footing on such occasions as the barristers and solicitors who appear for poor persons. Sir Henry Duke referred to the sacrifice of emoluments entailed by a "self-denying resolution," upon which those concerned are to be congratulated. The relief afforded by the Divorce Court thus becomes increasingly less a monopoly of the classes that are comparatively "well-to-do," through the combined action of members of the professions of law and medicine.

Correspondence.

"Audi alteram partem."

INTRA-OCULAR TENSION IN MYOPIA.

To the Editor of THE LANCET.

SIR,—In my Arris and Gale lecture three years ago (THE LANCET, 1921, i., 469) I set out my conviction that I had discovered the cause of myopia—namely, that it was produced by dilatation of the eye through increased intra-ocular tension caused by back pressure through the veins of the eye. Further observation has led to unexpected results. Not only does the myopia remain stationary on the advice given below, but it may diminish, and in some cases the eyes may even become emmetropic. The patient should be told to avoid any exercise which causes the veins of the neck to stand out, as, for instance, lifting a heavy weight in a stooping position, moving up and down on the hands or the use of dumb-bells, and not to bend over a book in reading or writing. There is no need to restrict the reading so long as this is done with comfort. The eye evidently possesses a power of contracting under diminished intra-ocular tension; to what extent this may occur is a matter for investigation. My object in writing this letter is to bring these facts to the notice of those who have to examine the eyes of school-children. I am, Sir, yours faithfully,

F. W. EDRIDGE-GREEN.

London, S.W., Oct. 9th, 1924.

DENTAL DRESSERS.

To the Editor of THE LANCET.

SIR,—There is always a danger of a discussion on principles and important subjects trailing off into trivialities, and Mr. Pitts's letter would have the effect of helping to side-track a great forward advance in social care. I had already noted the effect of Circular 1279 as a hold-up in the school dental service for the forthcoming number of the *Journal of School Hygiene*, and therefore now only refer to some points of objection.

Mr. Pitts shifts the ground when he apologetically says the real issue is not the efficiency of the dental dressers. The whole case stands or falls on the shorter training, providing persons who can give hygienic instructions and do minor work more cheaply and for practical school purposes just as well as if they had had years of wide-range training. This has been shown for public health purposes by Fones, the originator of the dental hygienist movement, and borne out by its success in America, New Zealand, and where tried in this country, so that it may be taken to be a possibility which experience has placed above mere theoretical discussions.

Again, Mr. Pitts's experience with the recently qualified dentists is against all we have heard for years. My own impression for the past 20 years was that there was a general shortage for the whole country, and it is only in terms of the whole country that it can be discussed. I am not alone. In the report of Sir George Newman, where he discusses the situation rising out of the report of the Dental Committee, he says: "The first fact of the situation is therefore a shortage of dentists" (Report, 1920, p. 97). "There are fewer dentists now in proportion to the whole population than there were 40 years ago, but there is a considerably greater need now than then." The Dentists Act Committee were of the opinion: "The number of registered dentists entering the profession is only likely to suffice for the service of the rich and comparatively well-to-do." These opinions probably deprive the theory of a plethora of dentists, of its value as a reason for holding up a great forward health movement.

For the qualified dentist, Mr. Pitts tells us the "examinations are not easy, and cover a wide field,"

but we do not need a steam-hammer to crack nuts, and it is not likely that public authorities will pay for all this luxury training that is unrequired. They cannot afford to pay for ten dentists with a five years' training, when for all practical school purpose nine dental hygienists, each with a 12 months' training, and a superintending dentist to whom they can refer cases, will completely cover the field at a much smaller cost.

The immense value of school dentistry was first officially put forward in this country in the Report: "There is no way of dealing with money in the interests of public health which will return so enormous a gain to the population for the small expense required as this matter of school dentistry. Dentists never touch this class of child, and there is here no competition between the private practitioner and the public servant" (L.C.C. Med. Off. Educ., 1907). This adumbrated the school dental service before it had started. Now, I am equally certain that a dozen years hence there will be ten dental hygienists at work in the primary school to every registered dentist. Why try to stand in the way of progress? "It will be worse for the cow." The whole question does not affect dentists alone, nor is it a matter of dilution of labour, as I am afraid some of our friends may think. It is the development of small specialties of a somewhat expert nature, in a restricted field, for voluminous public services. The demand is there, it is urgent. If it is not met the prevention of disease remains still afar. But prevention cannot wait. It must be got in as full measure as is possible now. It must be general, it must be simple, it must be cheap, it must not be barred by any interests. So long as it suffices, and serious risks are negligible, we must not stand on ancient rights or pedantic formulæ.

The only solution of the general school, and it may be added pre-school, dental service, not for a tenth as at present but for all children, that at present offers itself is the employment of 10,000 comparatively cheaply trained but quite efficient dental hygienists in our primary schools, with a few of the more costly but fully trained dentists and doctors as the final controls. There are about 5000 names on the Dental Register, of whom about 3000 are fully trained. The sooner the end is attained the better for our public health, for in many places it is these hygienists or none. We must always inculcate that the preventive hygiene of the teeth is a matter in the first place for each single individual, and only in the last resort for a specialist.

I am, Sir, yours faithfully,

JAMES KERR.

Mecklenburgh-square, W.C., Oct. 20th, 1924.

THE SPAS IN TRANSITION.

A PLEA FOR A NATIONAL POLICY.

To the Editor of THE LANCET.

SIR,—May I be allowed, as a convinced advocate of British waters, who has lately had an opportunity of investigating some of the chief spas in Italy and Switzerland, to offer to your readers the following notes and suggestions? The need for national stock-taking and reconstruction since the war has obliged those who are responsible for the spas of England to face the question, how these valuable health resorts may be best developed and utilised. Various interests are, of course, vitally concerned. I am dealing with the question simply as a neglected branch (as I believe) of medical science and practice. I venture to write you now because these latest impressions very greatly confirmed my opinion that a wise development at the spas as a whole is greatly needed in our country, and is indeed over-due.

1. *Specialisation of the Spa.*—At all the spas visited the special and individual characters of the water or baths are carefully defined, and the main indications (and contra-indications) for their medical use are prominently put forward. For instance, at Acqui the muds, and at Salsomaggiore the brines, are specially studied in their various applications. It follows that all forms of treatment, apart from the waters and baths, are considered of secondary importance.

N.B.—In former days there was a degree of specialism at the spas. In the last century a great many accessory methods were introduced, which in some places at home and abroad have obscured the original treatment. Consequently a very wide range of indications is now claimed for many spas. A reaction, however, has set in. It is clear that a rational and considered specialisation within the national group of spas is essential.

2. *The Practice of the Mineral Water Hospitals.*—These hospitals, such as the fine institutions at Salsomaggiore and Rheinfelden, show the same adherence to the main treatment and to the prescription of limited indications for its use. In these institutions accessory and surgical treatments are avoided, and one may watch, in cases of tuberculous glands or joints or bronchial asthma, the effects of treatment simply by brine baths or salt inhalations, &c.

N.B.—The Mineral Water Hospital affords the best available conditions for the study of the particular methods of the spa, used for selected cases and upon a large scale. It will be generally agreed that the results of treatment in these institutions are not adequately represented in medical literature. A standard system of measurements, records, and statistics for the British Spa Hospitals could no doubt be devised, and should prove of much scientific and practical utility. It is obvious that well-directed research in these hospitals is greatly needed in all countries.

3. *Official and Medical Control and Support.*—One or two of the principal spas in Italy are owned by the Government. The proper department supervises all spas, and confirms the appointment of the medical directors (vide infra). The national railways and the Italian Office of Tourism make a great contribution to the prosperity of the spas, and especially facilitate the visits of medical practitioners and students from home and abroad.

4. *Spa Practitioners.*—Every thermal establishment in Italy has its own medical director, who is responsible for all the treatment given. In addition to the medical directors, a body of consultant university professors is now attached to the Italian spas. In the new State Thermal Establishment at Salsomaggiore, for example, 12 consulting-rooms are provided for them and their assistants. They are selected as specialists in the maladies for which the local treatment is employed—e.g., diseases of the throat, of children and of women—and attend the spa regularly throughout the season.

N.B.—Such methods may bring increased prestige to the spa, and the directors certainly benefit by the coöperation of medical men of wide knowledge and experience. But can the visiting professor compete with the best local practitioner in his intimate knowledge of particular waters and baths? The results of this system will be awaited with interest, but the virtual disappearance of the old type of practitioner must be viewed with regret. For the reputation of many spas has been founded upon his experience.

5. *A New Specialism in Practice.*—There is arising a new order of specialists—not in the diseases that they treat, but in the remedies that they use. In the handling of baths and waters they are the acknowledged experts. In both medical and public opinion the spa is becoming a place for the exercise of the highest skill in certain forms of treatment. Each country has its own method. In France an increasing number of practising hydrologists confine themselves to their specialty, and occupy the winter in travel, or studies at the various institutes of hydrology. In Italy no medical man can be appointed as medical director without a competent knowledge of this branch of treatment. It is the aim of the teachers of hydrology in continental universities to attract to this specialty a certain number of highly qualified men, and to give them facilities for the necessary theoretical and practical training.

N.B.—Specialisation in the treatment of incipient and chronic disease at the spas is an inevitable and wholly beneficial development. Each national group of spas offers an attractive field for clinical study and practice, and a few men and localities may sometimes produce the finest work.

All the facts, in my judgment, point to the same conclusion. To meet the requirements of science and practice in England I would plead for a comprehensive and national policy. Without entering upon details, upon which my mind is entirely open, the guiding principles, as I conceive them, may be stated as follows: (1) the coördination and development of British waters, under medical authority; (2) post-graduate lectures in hydrology at the universities; (3) facilities at one university for the systematic training of hydrologist practitioners. Much is said, and truly, about the need for research, but research naturally follows the institution of teaching.

I am, Sir, yours faithfully,

London, Oct. 10th, 1924. R. FORTESCUE FOX.

FACT AND THEORY IN RADIO-THERAPY.

To the Editor of THE LANCET.

SIR,—I should like to assure Dr. Hernaman-Johnson that I have not tried to read anything into his letter that I thought was not there.

1. I still cannot agree with him that in making the wrong premiss that "unless a radiation penetrates the skin it can have no effect on underlying organs," any physical theory is disproved. That ultra-violet radiation is very easily absorbed by the skin is a physical fact, and the physical theory or theories which are linked with the phenomenon are those based upon the processes of molecular absorption. I do not think that any of these theories are weakened or disproved by the statement cited, but we are both agreed that the reasoning was wrong. I have only tried to make this point, because it seemed that for once theory was really not at fault.

2. Animal tumours when removed from the body and given doses of X rays between transplantations become more resistant to X rays. Observations of this kind have not, for obvious reasons, been made upon the human subject, so the rest is inference, and I think we cannot carry actual conclusions further. I agree with Dr. Hernaman-Johnson that in a tumour mass we are dealing with cells in different stages of vulnerability towards radiation, but I think that the studies on normal lethal doses show certain limits over which this vulnerability extends, but that these limits are widely extended by the experimental process referred to.

3. Dr. Hernaman-Johnson is invariably generous in his references to experimental work. He says that he looks to experiments "to furnish new ideas which may be tried out on actual patients." But then alas! he cannot grant us so much, for a few lines later on we read, "But when all this is admitted, one cannot 'lift' the results obtained for experiments on animals and apply them forthwith to the human subject."

I am, Sir, yours faithfully,

Physics Department, The Middlesex Hospital, W., Oct. 20th, 1924. SIDNEY RUSS.

OCCUPATIONAL DISEASES OF HOP-PICKING.

To the Editor of THE LANCET.

SIR,—I was interested to read Dr. W. J. O'Donovan's article in your issue of Sept. 20th describing two cases of dermatitis from hop-picking and Dr. C. J. Streich's letter on the same subject a fortnight later. I have seen several cases amongst the pickers this season in South-West Kent. Dr. A. H. B. Kirkham, of Staplehurst, called me out to see a doubtful case of scarlet fever with him. The rash was occupational, as the exposed parts only, particularly the knees and wrist, were affected. On inquiry at the Medical Mission hospitals and dispensaries quite a number of such cases have been noted. Dr. B. E. Ebden, who was in charge of the hoppers' hospital and dispensaries in Marden district, states she noted 58 cases. Another occupational disease in hoppers is acute catarrhal conjunctivitis. I saw three severe cases of this affection. Both eyes were markedly infected, there was a copious purulent discharge and also distinct photophobia. Dr. Ebden reports 55 cases of this description. The condition is known amongst the pickers as "hoppers' eye"; the cases I noted were all children. Still another occupational affection I have observed is what is known as "hoppers' gout." I saw two cases of this under treatment at the Medical Mission at Horsmonden. The wrists, the joints coming directly in contact with the hops, were swollen and tender. There was no inflammatory condition of the skin in these cases.

These three occupational affections—dermatitis, conjunctivitis, and synovitis—are in my opinion, produced by some irritant from the hop plant. Generally they have been attributed to the chemical washes used on the plants, but in the present year, owing to the remarkable absence of "vermin" from the hops, no washes have been used. This points to the plant itself being the cause. The question is an interesting one and opens a field for investigation. Over 60,000 pickers come into South-West Kent every September. Their accommodation presents a serious problem, and there is much need for improvement in the type of dwellings provided and the sanitation of the same. Fortunately, concurrent with the past exceptionally bad season greater efforts have been made than hitherto by voluntary agencies to provide for the medical treatment and nursing of the pickers. New hospitals or dispensaries were opened at Marden by Mrs. Spender, at Horsmonden by the Hoppers' Medical Mission, and at Capel and East Farleigh by the Chelsea Branch of the British Red Cross. These alone report the treatment of 5061 cases with 8608 attendances. This is remarkable work for purely voluntary effort. Many of the workers are nurses or V.A.D.'s with war service. From my experience of the past two seasons there is ample room for more to follow the good example.

I am, Sir, yours faithfully,

S. NICOL GALBRAITH, M.B., D.P.H., M.O.H., South-West Kent.

Public Health Office, Tonbridge, Kent, Oct. 16th, 1924.

THE DANGER OF STRONG APPLICATIONS FOR OPHTHALMIA NEONATORUM.

To the Editor of THE LANCET.

SIR,—May I through your columns draw the attention of practitioners to the danger of continued use of strong applications in the prevention or treatment of ophthalmia neonatorum? Every year since St. Margaret's Hospital for ophthalmia neonatorum in London was opened by the Metropolitan Asylums Board there have been admitted two or three cases in which both corneæ have been destroyed or very severely damaged by the use of perchloride of mercury in strengths of 1–500 to 1–3000, used four or five times a day; or by nitrate of silver, 10 or 20 gr. ad ℥i. used as drops two or three times a day. Although these drugs properly applied in correct dilutions are satisfactory, there is great danger if they are not properly used. I therefore generally teach classes of midwives and others who attend this hospital to use protargol 10 per cent. or acriflavin 1–1500 in castor oil as both safe and effective in the prophylaxis and treatment of the disease.

I am, Sir, yours faithfully,

Harley-street, W., Oct. 16th, 1924. M. S. MAYOU.

QUERY DRUNK.

To the Editor of THE LANCET.

SIR,—Referring to the note in your issue of Oct. 11th (p. 771) on the magistrate who pressed a medical witness to say whether or not a man was "drunk," I remember this question was discussed some years ago when I was a divisional surgeon of police. Two definitions were then given; one, said to

be in an Act of Parliament, ran thus: "A man is drunk if he has any sense or function impaired by the use of alcohol." This is, of course, much too strict for a non-prohibition country. The second, which I believe is the present standard for the Metropolitan police, is: "A man is drunk (in a police sense) if he is so under the influence of alcohol as to be a nuisance or a danger to himself or others." Needless to say, a man in charge of a horse and vehicle is a greater danger than if on foot, and one in charge of a motor-car a still greater danger than the driver of a horse-drawn vehicle, as the car has not even the brain of the animal. Of the many tests for "drunkenness" one of the best is for the suspected individual to try and stand on one foot with the eyes shut. In my time the divisional surgeons were instructed to say "drunk" or "sober," and not "under the influence of alcohol" or "has been drinking." But there were often troublesome cases, especially when the person's own doctor came and said he was sober.

I am, Sir, yours faithfully,

A. CHARPENTIER,
Formerly Divisional Surgeon, X Division,
Jersey, Oct. 17th, 1924. Uxbridge Station.

THE CLINICAL THERMOMETER AS NOXA.

To the Editor of THE LANCET.

SIR,—May I supplement your Annotation on the above (Oct. 18th) by pointing out the importance of *rubbing* the thermometer and not merely wiping it? Were we to trust more to friction there would be far less need for disinfectants, or for clinical thermometers which can be sterilised by heat.

I am, Sir, yours faithfully,

F. R. WALTERS.

Crooksbury Sanatorium, Oct. 20th, 1924.

Obituary.

JAMES ALBERT GIBSON, M.D. EDIN., D.P.H. IREL., M.B.E.

Dr. James Albert Gibson, medical officer of health for the Isle of Wight Rural District, who died at King's College Hospital on Oct. 12th, at the age of 59, was a native of Aberdeen and received his early education at the Edinburgh High School. He studied medicine at King's College and University College, London, and graduated in medicine and surgery at the University of Edinburgh in 1889. After qualifying Dr. Gibson practised for a time at Hornsey, and held appointments under the Post Office, the Board of Education, and the Civil Service Commission. In 1906, having obtained the public health diploma of the Royal Colleges in Ireland, Dr. Gibson settled in the Isle of Wight, where he succeeded the late Dr Joseph Groves as medical officer of health for the Isle of Wight Rural District. Soon after he took up office the appointment of medical officers of health by county councils was made compulsory under the provision of the Housing, Town Planning, &c., Act, of 1909. It was generally believed that Dr. Gibson would be the first county medical officer of health for the Isle of Wight, and it was a great disappointment to him that he was not finally selected. The terms of the appointment, however, were not such as could be accepted by the medical profession at the time and he stood loyally by his colleagues. To those who knew him intimately any other course would have been impossible, and he had the satisfaction of knowing that his action was thoroughly appreciated. He threw himself with increased energy into his district work and carried out many reforms in characteristically unobtrusive though determined manner. He held the rank of captain *à la suite* in the R.A.M.C. Territorial Force, and during the war was specialist sanitary officer to the Portsmouth garrison. At the time of his death he was county director of the British Red Cross Society in the Isle of Wight. He also held the post of medical superintendent of the Isle of Wight Joint Hospital Board, and was at one time school medical officer of the Isle of Wight County Education Committee. A colleague writes of him: "He was a man of sound judgment, no lover of change merely for the sake of change, but when convinced that reforms were due a very doughty opponent of the reactionary. Through his death the public health service has lost a highly competent and resourceful health reformer, who will long be held in affectionate remembrance by those who were privileged to be among his friends."

Dr. Gibson was the author of several articles on public health and sanitary subjects.

JOHN HAMMOND MORGAN, F.R.C.S. ENG., C.V.O.

Mr. J. H. Morgan, consulting surgeon to Charing Cross Hospital, died recently in London in his seventy-eighth year. He was a son of John Morgan, F.R.C.S., and was born in 1847. He received his education at Harrow and Trinity College, Oxford, obtaining the degree of M.A. in 1873. His medical training was given him by St George's Hospital, and he became a Member of the Royal College of Surgeons in 1876, gaining the Fellowship three years later. After continuing his studies for a time at Vienna, he became surgical registrar to St. George's Hospital and subsequently assistant surgeon to the West London Hospital. Mr. Morgan specialised in the surgical diseases of children, and held many appointments in this connexion: he was surgeon to the Alexandra Hospital for Hip Disease and to the Hospital for Sick Children, Great Ormond-street. When the Lord Mayor Treloar Cripples' Hospital was founded at Alton some 17 years ago, Mr. Morgan was nominated a member of the original medical board, on the suggestion of the then presidents of the Royal Colleges of Physicians and Surgeons, and by the unanimous vote of his colleagues he was elected chairman of that board.

Sir Henry J. Gauvain writes of him as follows: "It has been my great privilege to be intimately associated with Mr. John Morgan during the past 16 years. In his work for the Lord Mayor Treloar Cripples' Hospital no one could have been more zealous in carrying out the duties his position entailed. As the more urgent calls on his time diminished he retained ever more keenly his interest in the work at Alton. He was deeply interested in the advances made in the technique of the treatment of our patients, and, tenacious to the sound principles on which conservative treatment of surgical tuberculosis are based, rejoiced in all advances made on these lines. An ardent sportsman and a distinguished athlete (he won the Inter-Varsity three miles three years in succession at Oxford and became President of O.U.A.C.), his activities were limited of recent years by reason of a severe accident in the hunting field. Nevertheless, till comparatively lately he managed to travel a great deal, one of his latest considerable journeys being taken with his friend, the late Sir Frederick Treves, to the West Indies. Since his retirement gardening was one of his great hobbies. During the great war he played his part while in his seventieth year as medical chief of the Croix Rouge Hospital for wounded soldiers at Nevers. He typified the old-fashioned surgeon, dignified, courtly, with a high sense of duty and a direct manner which concealed the kindest of hearts and the most generous of instincts."

Mr. Morgan was at one time examiner in surgery at the University of Oxford. He was a Knight of Grace of the Order of St. John of Jerusalem in England, a Companion of the Victorian Order, and received the Médaille de Reconnaissance de la République Française. His publications include many papers in various medical journals on surgical subjects. In 1898 he was Lettsomian lecturer of the Medical Society of London (and at one time was president of that society), his subject being the Surgical Affections of the Urinary Tract of Children. To Heath's Dictionary

of Surgery he contributed an article on Surgery of the Hand. Other papers were Opening and Drainage of Joints (*Guy's Hosp. Reports*, 1879) and the Treatment of Traumatic Stricture (*Practitioner*, 1888).

PARLIAMENTARY ELECTION: MEDICAL CANDIDATES.

NOMINATIONS were completed on Oct. 18th, and one medical man has been returned unopposed to the House of Commons—namely, Prof. Thomas Sinclair, who represents Queen's University, Belfast, in the Conservative interest. Prof. Sinclair was returned unopposed for the same constituency at the General Election in 1923. The Scottish Universities constituency, which returned three members unopposed at the last election, is now being contested by four candidates. Two of these, Sir George Berry and Sir Henry Craik, sat in the last Parliament. The latter, although not a medical man, has always been a good friend to medicine. The single seat for London University is being contested by four candidates, three of whom are medical men.

Polling takes place next Wednesday, Oct. 29th, when the following medical candidates will submit themselves for election. Those who sat in the last Parliament are indicated by a dagger sign; those who stood unsuccessfully by an asterisk.

Candidate.	*Constituency.*	*Party.*
Dr. C. Addison	Hammersmith, South	Lab.
Dr. Ethel Bentham*	Islington, East	Lab.
Sir George Berry†	Scottish Universities	C.
Sir John Rose Bradford	University of London	C.
Dr. F. G. Bushnell	University of London	Lab.
Dr. W. A. Chapple†	Dumfries	L.
Dr. Stella Churchill	Hackney, North	Lab.
Dr. R. Dunstan*	Birmingham, West	Com.
Capt. W. E. Elliot†	Glasgow (Kelvingrove)	C.
Dr. F. E. Fremantle†	Hertford (St. Albans)	C.
Dr. O. Gleeson*	Portsmouth, North	Lab.
Dr. L. Haden Guest†	Southwark, North	Lab.
Mr. Somerville Hastings†	Reading	Lab.
Sir Henry Jackson	Wandsworth, Central	C.
Dr. Graham Little	University of London	Ind.
Sir Richard Luce	Derby	C.
Dr. J. J. Lynch	Walsall	Ind.
Dr. I. H. MacIver	Argyll	Lab.
Dr. H. B. Morgan*	Camberwell, North-West	Lab.
Dr. J. Robinson	Stretford	Lab.
Dr. Laura Sandeman	Aberdeen, North	C.
Dr. Alfred Salter*	Bermondsey, West	Lab.
Dr. E. G. Spero†	Stoke Newington	L.
Dr. T. Watts*	Manchester (Withington)	C.
Dr. J. H. Williams†	Carmarthen (Llanelly)	Lab.
Lieut.-Col. T. S. Beauchamp Williams†	Lambeth (Kennington)	Lab.

C., Conservative. L., Liberal. Lab., Labour.
Ind., Independent. Com., Communist.

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—After the delivery on St. Luke's Day of the Harveian Oration by Prof. Sir Archibald Garrod, the President, Sir Humphry Rolleston, presented the Weber-Parkes Prize and Medal to Prof. A. Calmette, formerly of Lille, now subdirector of the Pasteur Institute, for his researches on tuberculosis. The President referred to him as the foremost authority on this subject, at the same time alluding to his researches into other aspects of bacteriology. He then presented the Moxon Gold Medal to Sir Leonard Rogers, F.R.S., for his distinguished researches in clinical medicine. In doing so, he remarked that there were few tropical diseases in regard to which Sir Leonard Rogers had not laid the medical profession under debt by his investigations. He mentioned especially dysentery, kala-azar, cholera, and leprosy, and wished him success in his present researches into the treatment of tuberculosis.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH, ROYAL COLLEGE OF SURGEONS OF EDINBURGH, AND ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—The following candidates having passed the requisite examinations have been admitted Diplomates in Public Health:—

George M. Currie, James L. Connacher, John Yule, Robert Lockhart, Thomas M. Hunter, Margaret W. Kemp, Margaret M. U. Martin, Robert Armstrong, Andrew Hamilton, Alexander King, Mary N. Hendry, Alice McGlashan, Annabella McGarrity, Thomas S. McKean, Anne M. Forrest, May Marshall, James D. Dear, Archibald Penman, Annie G. Learmonth, Elizabeth M. Lindsay, Percival V. Pritchard-Ian M. D. Grieve, Francis B. Mackenzie, Jenny C. King, Winifred Wight, Isobel C. Macdonald, Elizabeth M. J. Currie, Reginald J. Matthews, Sheila Hunter, Alexander M. M. Grierson, Frederick W. Gavin, George W. Simpson, Phyllis M. H. Lunn, Ganapathi S. K. Iyer, Jean V. Kirkwood, Robert H. Dunlop, Margaret D. Cairns, Catherine M. Buchanan, William H. Carter, Christina Grant, Daisy B. McBride, Charles C. I. Slorach, Isabella P. Crosbie, and John C. Macartney.

The following candidates have passed the Triple Qualification Examination:—

FINAL EXAMINATION.

Naranapillai Ampalavanar, Eric S. Brohier, Charles J. B. Cave, Teck Y. Chia, Fakherddin El Ahmadi, Adolphus S. P. Fernando, Eric C. Gilles, Patrick Groarke, Rodney H. Holt, Trevor Hughes, James K. Hunter, Herman H. James, Bentis S. Jayawardene, John W. Keighley, Thomas F. Kelly, Colin McCulloch, Lachlan MacLean, Roy N. Martin, David S. Middleton, Thomas J. Muir, Marcellin Perera, Kathirgamer Poothatanby, Frank P. Rust, William Rutherford, David Stewart, John P. Subramaniam, George H. Tarras, Victor B. van Dort, William G. S. Pepper, Velayutham P. Thiyagaraja, and John A. McCann.

Medicine.—Ebenezer A. M. McKinney, David Isaacs, Hapuarachige Don J. Lazarus, Petrus J. Badenhorst, Abraham M. Filer, and William A. D. Oliver.

Surgery.—Joseph F. Hedley, James M. Rutherford, Rajaratnam W. C. Thambiah, Ernest G. Douglas, and Petrus J. Badenhorst.

Midwifery.—Joseph F. Hedley, Mikhail Youakim, Arcot Vasudev, Florence M. Smith, Irma E. L. Mackenzie, Isaac Chesarkie, Marian E. Owen-Morris, Rajaratnam W. C. Thambiah, Ernest G. Douglas, John P. T. Mills, Abraham M. Filer, Nashid T. Yusif, Joseph Horsham, William M. B. Rossie, Henry A. Newton, and William A. D. Oliver.

Medical Jurisprudence.—Piang L. Low, Donald Ross, Charles E. Millen, Arcot Vasudev, James L. Malone, Andrew Wilson, Francis D. R. Wylie, Kripa R. Bali, John L. Clark, Gavin J. Bell, Harold B. Wainer, Hamilton J. Marcelin, John Sullivan, Arthur G. Farquharson, Peter King, Joseph W. McVicker, Mary A. McGill, James K. Steel, George M. Johnson, Appacuttiar B. C. Doray, William Allan, and James E. Kennedy.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—At a meeting of the College on Oct. 15th Sir Harold J. Stiles was re-elected President for the ensuing year, Sir David Wallace Vice-President, and Mr. Alexander Miles secretary and treasurer.—Mr. Pirie Watson was approved as a lecturer in surgery at the Extra-mural School.

The following 23 candidates (out of 54 entered) who passed the requisite examinations between July 7th and 11th, 1924, were admitted Fellows:—

Francis G. Bell, Alfred P. Bertwistle, Edgar S. Clayton, Avabai J. Dodhi, John A. Douglas, Alfred M. Elliott, Augustine S. Fry, Calansuria A. S. D. Jayanayake, Lachlan M. McKillop, Israel Maisels, Thomas M. Millar, John Miller, Hector M. Monro, Hector Mortimer, John R. Muir, Samuel L. Navaratnam, Forster H. B. Norrie, Tharamale G. R. Panikkar, John W. Riddoch, Richard H. Rose-Innes, Harish C. Suri, William P. Tew, and Douglas St. J. Wigle.

UNIVERSITY OF DUBLIN, SCHOOL OF PHYSIC, TRINITY COLLEGE.—At recent examinations the following candidates were successful:—

FINAL MEDICAL EXAMINATION.

Part I., Materia Medica and Therapeutics; Medical Jurisprudence and Hygiene; Pathology and Bacteriology.—Seymour F. Heatley (passed on high marks), Margaret H. Donaldson, Nancie N. Lowther, Samuel Smyth, William P. Cuthbertson, William Magowan, James C. C. Boyle, Ernest E. Satchwell, Herbert A. Brittain, Robert Kahn, George A. Walmsley, Wilfred Sinclair, Douglas Bluett, Mabel E. Brittain, Aileen Fair, Jane D. Fulton, William R. G. Gallagher, Gerald V. A. Griffith, Ernest H. Hall, Victor G. Horan, Ernest E. Malone, Harry Nelson, Andrew E. A. O'Byrne, Frances E. O'Connor, Philip F. Palmer, Grace J. Rankin, Stella C. Ross, William Russell, John C. T. Sanctuary, Lionel B. Somerville-Large, Hope Trant, Richard T. P. Tweedy, Edmund J. Walsh, and Charles F. M. Wilson.

DIPLOMA IN PUBLIC HEALTH.

Part I., Chemistry, Bacteriology, Physics, and Meteorology.—Kundanmal J. Bhavnani, John M. Gray, and William T. Hogan.

Part II., Sanitary Engineering; Practical Sanitary Report; Hygiene and Epidemiology; Vital Statistics and Sanitary Law.—Edward Parker and Kundanmal J. Bhavnani.

DIPLOMA IN GYNÆCOLOGY AND OBSTETRICS.

Cecil C. Coghlan.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.—At the annual meeting of the Royal College of Physicians, held on St. Luke's Day, Sir William John Thompson was elected President. Sir William Thompson has been a Fellow of the College since 1902, and has served in the usual offices of censor and examiner. As senior censor and Vice-President for the past two years he has, owing to the continued illness of the outgoing President, had to perform many of the duties which ordinarily fall to the President. Formerly

physician to Jervis Street Hospital, Sir William Thompson has been, since 1908, Registrar-General, first of Ireland, and latterly of the Irish Free State. He has declared that it is not his intention to hold the office of President for more than one year, in view of the fact that he is a Civil servant. In this he follows the precedent of the late Dr. T. W. Grimshaw, who was elected President of the College while holding the office of Registrar-General. The censors of the College elected on St. Luke's Day are:—In medicine: Drs. G. E. Nesbitt and R. J. Rowlette; in medical jurisprudence: Dr. W. A. Winter; in midwifery: Dr. G. FitzGibbon. The President nominated Dr. Winter as Vice-President. At the same meeting two new Fellows were elected: Dr. Mary E. T. Hearn, of Cork, and Major J. D. Sandes, of the Indian Medical Service. Dr. Hearn is the first woman to be elected a Fellow of the College, which, nearly 50 years ago, was the first educational body in the three countries to admit women as licentiates.

RONTGEN SOCIETY.—A general meeting of this society will be held on Tuesday, Nov. 4th, at 8.15 P.M., in the British Institute of Radiology, 32, Welbeck-street, London, W. 1, when the presidential address will be delivered by Dr. A. E. Barclay, the subject being the Growth of Radiology: Has the Rontgen Society kept pace with it?

ROYAL COMMISSION ON NATIONAL HEALTH INSURANCE.—This Commission held its second meeting on Oct. 15th at the offices of the Ministry of Health, Whitehall. Before proceeding to the taking of oral evidence the Commission considered the question of admission of the public and the press to the meetings at which such evidence would be taken. The Commission decided that the meetings should be held in private, but that a short summary of the business done should be communicated to the press immediately after each meeting, and that a verbatim report of the evidence should be published and placed on sale through the Stationery Office within about a fortnight after the date of the meeting at which it had been taken. Thereafter the Commission proceeded with the evidence of Sir Walter Kinnear, Controller of the Insurance Department of the Ministry of Health, who was questioned on the law and administration of the Health Insurance Scheme in its present form. Sir Walter Kinnear's evidence was not concluded when the Commission rose for the day, and he was to be heard further on Oct. 23rd.

SOCIETY OF M.O.H.'S: ANNUAL DINNER.—The annual dinner of the Society of Medical Officers of Health was held at the Hotel Cecil, London, on Friday, Oct. 17th, the President, Dr. Robert A. Lyster, being in the chair. There was a large attendance of health officers and their friends from all parts of the country, about 130 guests sitting down to dinner. The toast of "The Society" was proposed by the Bishop of Winchester, who described the medical officer of health as the life-preserver of the community and one who was always proposing the health of his municipality. He spoke feelingly of the housing conditions in urban areas and of the pressing need not only to make houses fit for heroes to live in but to make heroes fit to live in them. Dr. Lyster, in reply, said that no one would welcome more heartily the powerful aid of the Church than the public health service, and, as a matter of fact, close relation had existed between them for centuries. He quoted the dictionary definition of "Society" as a noun of multitude signifying "many" but not signifying "much," paying a tribute to Prof. Kenwood's successful effort to make that Society count for something during his prolonged tenure of the presidency. The public health branch of medicine saved life by thousands where the curative branch did so by individuals, and it was evidently the leading branch of medicine for the future. Dr. G. F. Buchan proposed "The Ministry of Health" and emphasised the need for coördination in order that British public health administration might remain the shining light among the nations that it now is. Sir Arthur Robinson, in reply, recited the multifarious activities of the Ministry, including such branches as the care of canal boats and insurance practice. It was the aim of the Ministry, he said, to get hold of all these principles by the health end. Prof. Harold Kerr proposed "The Guests," response being made by Lord Dawson of Penn, Sir Humphry Rolleston, Sir Francis Champneys, and Mr. H. J. Waring. "The President" was proposed by Dr. Lockhart Stephens, who put in a plea for the part-timer as a liaison officer between the public health authority and the general practitioner; and Dr. Lyster, in thanking the gathering for its warm reception of him, said he had never heard a word of animosity on the part of any medical officer of health against the part-timer; he did splendid work, and it was only the conditions under which he worked which required remodelling. Dr. Herbert Jones proposed "The Executive Secretary," and Mr. G. S. Elliston briefly replied. Excellent vocal music was provided during the evening by Miss Olive Sturgess and Mr. Norman Williams.

NAVAL MEDICAL COMPASSIONATE FUND.—At the quarterly meeting of the directors of this Fund, held on Oct. 7th, Surgeon Vice-Admiral Joseph Chambers, C.B., C.M.G., R.N., Medical Director-General of the Navy, in the chair, the sum of £69 was distributed among the several applicants.

ABERDEEN UNIVERSITY CLUB, LONDON.—The bi-annual dinner of this club will be held at Gatti's Restaurant, Strand, on Thursday, Nov. 6th, at 7.30 P.M. On this occasion the George MacDonald centenary will be celebrated. Dr. W. A. Milligan, 11, Upper Brook-street, W., will be glad to hear from past or present graduates, men or women, wishing to attend the dinner or join the club.

INSTRUCTION TO PUPIL MIDWIVES.—An instruction course, open to all midwives teaching pupils midwifery, will be held by the Association of Teachers of Midwifery at the Royal Society of Arts, John-street, Adelphi, W.C. 2, on Oct. 29th, 30th, and 31st. Five lectures or demonstrations will be given each day, and among the lecturers are Dr. J. Lane-Claypon, Dr. J. H. Sequeira, Prof. L. McIlroy, Prof. Winifred Cullis, Prof. T. B. Johnston, Dr. Harold Waller, Mr. Farquhar Murray, and Dr. J. S. Fairbairn. Further particulars may be obtained from the Secretary of the Midwives' Institute, 12, Buckingham-street, Strand, W.C. 2.

WARREN TRIENNIAL PRIZE.—This prize was founded at the Massachusetts General Hospital, U.S.A., by the late Dr. J. Mason Warren in memory of his father, and his will provides that the accumulated interest of the fund shall be awarded every three years to the best dissertation considered worthy of a premium, on some subject in physiology, surgery, or pathological anatomy, the arbitrators being the General Executive Committee of the Massachusetts General Hospital. Theses submitted for competition for the year 1925 shall be on some special subject in physiology, surgery, or pathology, and must be typewritten in either English, French, or German. The amount of the prize for the year 1925 will be $500. Dissertations will be received until April 15th, 1925.

LIVERPOOL MEDICAL INSTITUTION.—The inaugural meeting of the eighty-sixth session of the Institution was held on Oct. 16th, when there was the large attendance of 170 members. The chair was taken by Mr. R. C. Dun, the President, who referred to the death during the year of three members of the Institution, Mr. Newbolt, Dr. Gill, and Dr. De Jong. He also alluded to the steady increase of membership of the Institution. His inaugural address was entitled "The Banner of Our Pride," in which he sketched the ancient history of the Order of St. John of Jerusalem in the Mediterranean and in England. The development of first-aid work through the agencies of the St. John Ambulance Association and Brigade was explained, and also the origin and pre-war work of the British Red Cross Society. The war work of these two great organisations combined in a joint war committee was illustrated by many extracts from the official report. In conclusion, it was shown how, through the ages, the ideals of those who had worked under the white or the red cross flag had remained the same and how that work had been for country and for humanity.

MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE SOCIETY.—Dr. F. J. Allan, who presided at the annual general meeting held at 300, High Holborn, London, W.C., on Oct. 6th, called attention to the flourishing condition of the society, which is now in its fortieth year. The annual report for the year ending June 30th, 1924, shows that the total premium income amounts to £53,969, and the average rate of interest earned £4 16*s.* 10*d.* per cent. gross, and £4 0*s.* 11*d.* per cent. after deduction of tax. The Sickness and Accident Fund and the Life Assurance Fund have increased by £24,479, and amount to £373,710. The number of policies issued by the Sickness and Accident Fund was 433 for annual premiums of £5037 17*s.* 10*d.* Sickness claims paid amounted to £24,131 19*s.* 6*d.* The total premiums amounted to £41,582 16*s.* 4*d.* The total of the fund at close of period was £263,963 11*s.* 9*d.* The number of policies issued by the Life Assurance Fund was 234, assuring £139,660 gross, and £137,360 after deduction of reassurances, for net annual premiums of £4446. The premiums amounted to £12,386, while the claims by death and maturity amounted to £4950. The surrenders were £206 16*s.* 9*d.*, and the annuities paid £5330. The number of annuitants who died were five, and by these deaths annuities to the amount of £250 have ceased to be payable. The total of the fund at the end of the period was £109,746. The report being adopted, Dr. C. Buttar and Dr. H. Hilliard were re-elected members of the board of directors. A vote of thanks to the chairman, proposed by Sir William Willcox, concluded the proceedings.

MEDICAL LORD MAYOR.—Dr. George Stevens Pope has been selected as the new Lord Mayor of Norwich.

THE Hon. Herbert Crawshay Bailey, Barrister-at-law, has been appointed as Commissioner of the Board of Control in succession to the late Mr. A. H. Trevor.

LONDON COUNTY COUNCIL MEDICAL SERVICE.—It has been decided that for the future medical women in the service of the L.C.C. shall resign on marriage. This rule will not apply to the three married women medical officers at present serving the Council.

ROYAL NORTHERN HOSPITAL.—Princess Louise, Duchess of Argyll, will open the new nurses' home on Oct. 30th at 3.30 P.M. The home is the first section of a larger building, and provides separate bedrooms for 58 nurses and administrative offices, sitting-rooms, &c., for the complete building, which will eventually accommodate nearly 120 nurses.

UNIVERSITY OF BRISTOL: ASSOCIATION OF ALUMNI (LONDON BRANCH).—The annual dinner of this branch will be held on Friday, Nov. 7th, at 7.30 for 7.45 P.M., at Pagani's, 42–48, Great Portland-street, W. Lord Haldane will preside. Members of the University and past members of its associated colleges are invited to apply early for tickets, price 8s. 6d. (exclusive of wines), to the hon. secretary, Holloway Sanatorium, Virginia Water.

ALTON COTTAGE HOSPITAL.—On Saturday, Oct. 18th, in the presence of a large gathering, the new extensions to the hospital were opened, in the absence of Major-General the Rt. Hon. J. E. B. Seely, by Canon Causton, Master of St. Cross, Winchester, whose father founded the hospital. The ceremony of dedication of the wards and operation theatre was performed by the Rev. J. D. Carter. The enlargement of the Institution consists of two new wards with accommodation for 16 extra beds, a surgeon's room and lobby, anæsthetic and sterilising rooms, a matron's room, an operation theatre, and two private wards. In addition there is a block for X ray treatment, an out-patient department, and a new power house for lighting and heating purposes. The extensions, which cost some £18,000, were made possible through the generosity of Mr. and Mrs. F. B. Summers, of Froyle-place, Hants, in memory of their two children. Mr. Summers, who is chairman of the hospital committee, presided at the opening ceremony.

DONATIONS AND BEQUESTS.—The Royal Cornwall Infirmary will benefit under the will of the late Mr. John James, of Truro, by a sum of £1000.—By the will of the late Mr. George Heaton, F.R.C.S., of Sutton Coldfield, Warwickshire, the testator left £1000 to the Birmingham General Hospital upon trust for investment, and to pay the income annually as to one-half to the person whom the medical committee of that hospital shall decide to be the best resident qualified officer of that hospital for the year. He desired that in making such decision the committee should take into account not only the academical qualifications of that officer, but also his or her industry, attention to duties, consideration for patients, and general disposition and personal character, so that the recipient shall be the best officer from the general point of view. One-fourth to the sister or staff nurse whom the matron (being guided as above) shall decide to be the best of the year. One-fourth to the sister or staff nurse selected by vote of the whole of the sisters, nurses, and probationers of the hospital.—Mr. Alfred Langton, chairman of the Hampstead General Hospital, has given that institution a new X ray department.—A cheque for £1500 has been presented to the Royal Victoria and West Hants Hospital by the Executive and Carnival Committees of the Bournemouth Hospital Saturday and Sunday Fund; £1000 of this amount has been earmarked for the extension scheme fund of Boscombe Hospital.—Alderman John Pennington Waters, J.P., Kingston Hill, Surrey, left £200 each to the Kingston Victoria Hospital, the Kingston Nursing Association, the Kingston Day Nursery, the Association for Preventive and Rescue Work, and the Central Aid Society.—Mr. James Brindley Sherwin, Tottenham, left £200 each to the Prince of Wales's Hospital, Tottenham, and the Middlesex Hospital, and £100 to the Mothers' Lying-in Home.—Mr. George Aspinall Jackson, of Bradford, left £500 each to the Bradford Royal Infirmary, the Bradford Children's Hospital, and the Bradford Nurses' Institution.—Mr. William Harrap Mason, of Leeds, surgeon, who left £19,115, bequeathed £1000 each to the Leeds General Infirmary and to Dr. Barnardo's Homes; £500 each to the Leeds Public Dispensary, the Hospital for Women and Children, Leeds; and £250 to St. Peter's Church, Dewsbury, for the poor at Christmas. Subject to a few legacies, he left the residue of the property to such Leeds charities as his executors should select.

JUNIOR EDINBURGH CLUB IN LONDON.—The first dinner for the winter will be held at the Boulogne Restaurant, Soho, on Friday, Oct. 31st, at 7.30 P.M. Informal dinners are held monthly, and membership is open to all recent graduates of Edinburgh University. The hon. secretary is Dr. R. Scott Stevenson, 30, New Cavendish-street, W. 1.

UNIVERSITY OF SHEFFIELD.—A course of six lectures on the History of Medicine will be given by Mr. George Wilkinson during the winter session. On Oct. 31st he will speak on the Mediæval Practitioner, Chaucer's "Doctour of Phisyk"; on Nov. 14th the beginnings of the application of Physics to Medicine will be discussed, with special reference to Descartes, Borelli, and Boerhaave, and on Nov. 28th the beginnings of the application of Chemistry to Medicine (Paracelsus, Van Helmont, Franciscus Sylvius). On Jan. 30th, 1925, the lecturer will trace the History of the Microscope, and on Feb. 13th the beginnings of its application to Medicine (Malpighi). The final lecture on Feb. 27th will be devoted to the origin of the "germ theory" of disease. The lectures will be at 4.30 P.M. They are open to University students and to medical practitioners.

Medical Diary.

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MEETINGS OF SECTIONS.

Monday, Oct. 27th.

ODONTOLOGY: at 8 P.M.
Presidential Address by Mr. J. G. Turner.
Paper:
Mr. E. D. D. Davis: Some Points in the Pathology, Diagnosis, and Treatment of Diseases of the Maxillary Antrum.

Tuesday, Oct. 28th.

MEDICINE: at 5.30 P.M.
Clinical Meeting at Charing Cross Hospital, W.C. Tea will be served at 5 P.M.

Thursday, Oct. 30th.

UROLOGY: at 8.30 P.M.
Presidential Address:
Mr. C. A. R. Nitch: Renal Tuberculosis.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.
MONDAY, Oct. 27th.—8 P.M., Clinical Evening: Exhibition of Cases and Skiagrams. (Cases will be on view from 8 to 9 P.M.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn-fields, W.C.
FRIDAY, Oct. 31st.—5 P.M., Prof. Arthur Keith: Museum Demonstration: Specimens illustrating Points in the Applied Anatomy of the Heart.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.
MONDAY, Oct. 27th, to SATURDAY, Nov. 1st.—WEST LECTURE HALL, Royal Society of Medicine, 1, Wimpole-street. Lectures arranged by the FELLOWSHIP OF MEDICINE and open to all members of the Profession. At 5.30 P.M., Wed., Oct. 29th, Mr. Sampson Handley: Cancer of the Breast. Fri., Oct. 31st, Mr. R. H. Jocelyn Swan: Malignant Growths of the Kidney.—CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn-road, W.C. Special Intensive Course, third week. LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, Endsleigh-gardens. Tues. and Thurs., at 2 P.M., Clinical Demonstration by Dr. G. C. Low and Dr. Manson-Bahr.—ROYAL FREE HOSPITAL, Gray's Inn-road, W.C. Wed., 5.15 P.M., Dr. Heald: Lecture-Demonstration: The Uses of Other Electrical Currents.—HAMPSTEAD GENERAL HOSPITAL, Haverstock-hill, N.W. Special Intensive Course in General Medicine and Surgery, first week.—DISEASES OF CHILDREN (COMBINED COURSE) at the Paddington Green Children's Hospital, Victoria Hospital, and Children's Clinic. Special Intensive Course, first week.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.
TUESDAY, Oct. 28th.—4.30 P.M., Dr. L. R. Yealland: Syphilis of the Central Nervous System.
FRIDAY.—4.30 P.M., Dr. C. E. Sundell: The Rheumatic Child.
Daily: Medical and Surgical Clinics, Clinics in the various Special Departments, Surgical Operations, &c.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.
MONDAY, Oct. 27th.—12 noon, Mr. Simmonds: Applied Anatomy. 2 P.M., Mr. Addison: Surgical Wards. 2 P.M., Mr. Bishop Harman: Eye Dept.
TUESDAY.—11 A.M., Mr. Endean: Venereal Diseases. 12 noon, Dr. Burrell: Chest Cases. 2 P.M., Mr. Banks-Davis: Throat, Nose and Ear Dept.
WEDNESDAY.—11 A.M., Medical Registrar: Medical Wards. 12.15 P.M., Dr. Burnford: Medical Pathology. 2 P.M., Mr. Donald Armour: Surgical Wards.
THURSDAY.—12 noon, Dr. Scott Pinchin: Diseases of the Heart. 2 P.M., Mr. Simmonds: Surgical Out-patients. 2 P.M., Mr. MacDonald: Genito-Urinary Dept.
FRIDAY.—10 A.M., Mr. Simson: Gynæcological Operations. 12 noon, Surgical Registrar: Surgical Pathology. 2 P.M., Dr. Burrell: Medical Out-patients.
SATURDAY, NOV. 1st.—9.30 A.M., Dr. Burnford: Bacterial Therapy. 10 A.M., Dr. Saunders: Diseases of Children. 10 A.M., Mr. Banks-Davis: Operations on Throat, Nose, and Ear.
Daily, 10 A.M. to 6 P.M., Saturdays, 10 A.M. to 1 P.M., In-patients, Out-patients, Operations, Special Departments.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.
THURSDAY, Oct. 30th.—4 P.M., Dr. Nabarro: The Bone and Joint Lesions in Congenital Syphilis.

ST. JOHN'S HOSPITAL, 49, Leicester-square, W.C.
TUESDAY, Oct. 28th.—5 P.M., Dr. H. W. Barber: Immunity. Anaphylaxis.
THURSDAY.—5 P.M., Dr. W. Griffith: Principles of Treatment. General.

UNIVERSITY OF LIVERPOOL POST-GRADUATE LECTURES. (At 3.30 P.M.)
WEDNESDAY, Oct. 29th.—(At the Northern Hospital). Mr. Hugh Reid: Head Injuries.
THURSDAY.—(At the Stanley Hospital.) Mr. Courtenay Yorke: Ear, Nose, and Throat Cases.
FRIDAY.—(At the Royal Infirmary.) Mr. Thelwall Thomas: Surgical Cases.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE LECTURES.
TUESDAY, Oct. 28th.—4.15 P.M., Mr. C. Roberts: Empyema.
FRIDAY.—4.15 P.M., Prof. W. W. C. Topley: The Control of Diphtheria by means of the Schick Test.

UNIVERSITY OF SHEFFIELD POST-GRADUATE LECTURES. (At 3.30 P.M.)
TUESDAY, Oct. 28th.—(At the Royal Infirmary.) Mr. W. S. Kerr: Diseased Tonsils.
FRIDAY.—(At the Royal Hospital.) Prof. A. J. Hall: Some Sequelæ of Epidemic Encephalitis.

ROYAL INSTITUTE OF PUBLIC HEALTH, Russell-square, W.C.
(Course of Lectures on the Health of the Commonwealth.)
WEDNESDAY, Oct. 29th.—4 P.M., Dr. C. W. Saleeby: Helio-Hygiene.

THE PEOPLE'S LEAGUE OF HEALTH. Course of Lectures on the Mind and What We Ought to Know About It. (At the Medical Society of London, 11, Chandos-street, W.)
MONDAY, Oct. 27th.—6 P.M., Dr. Thomas Beaton: Sensation, Perception, Ideation, and Memory.

Appointments.

Paddington Green Children's Hospital: WILLIAMSON, B., M.B., Ch.B. Edin., has been appointed House Physician; HALLEY, G. S., M.B., Ch.B. St. And., House Surgeon.

Certifying Surgeons under the Factory and Workshop Acts: JONES, F. C., L.R.C.P. Lond., M.R.C.S., Cwmbran, Monmouth; PARIS, W., L.R.C.P. & S. Edin., L.R.F.P.S. Glasg., Kirkwall, Orkney.

Vacancies.

For further information refer to the advertisement columns.

Bolton Union, Townleys Hospital, Farnworth.—Second Asst. M.O. £225.
Bradford Children's Hospital.—H.S. £100.
Bradford Royal Eye and Ear Hospital.—H.S. £120.
Bristol University.—Directorship of Clinical Obstetrics.
British Honduras.—Asst. M.O. $2430.
Burnley Union, Primrose Bank Institution.—Res. M.O. £300.
Cancer Hospital, Fulham-road, S.W.—H.S. for six months at rate of £100. Also Anæsthetist.
Canterbury, Kent, and Canterbury Hospital.—Third Res. M.O. £125.
Cape Town University.—Wernher Beit Chair of Pathology
Countess of Dufferin's Fund, Women's Medical Service for India.—Two Med. Women. Rs.550.
Gesto Hospital, Edinbane, Skye.—Res. M.O. £300.
Hampshire County Council.—Dental S. £500.
Hospital of St. John and St. Elizabeth, 40, Grove End-road, N.W.—Second Res. M.O. for six months at rate of £100.
Hull, City and County of Kingston-upon-Hull.—M.O.H. £1400.
Leicester, Isolation Hospital and Sanatorium, Groby-road.—Res. M.O. £350.
Leicester Royal Infirmary.—Hon. Radiologist. 100 guineas.
Lincoln, Lindsey County Council.—Third Dentist. £500.
London Hospital, E.—First Asst. to one of the four Med. Firms £400.
London Royal Free Hospital School of Medicine for Women, Hunter-street, Brunswick-square, W.C.—Third Asst. in Obstet. and Gynæcol. Dept. £270.
Metropolitan Asylums Board Infectious Hospital Service.—Jun. Asst. M.O.'s. £500.
Newport Education Committee.—Asst. Dentist. £450.
Oswestry, Shropshire Orthopædic Hospital.—Two H.S.'s. Each £250.
Pendleton, Municipal Maternity and Babies Hospital, Seedley-terrace.—Asst. Child Welfare M.O. £608 8s.
Plymouth County Borough.—M.O.H., &c. £1200.
Poplar Hospital for Accidents, East India Dock-road, E.—Sen. Res. O. £200.
Queen Charlotte's Maternity Hospital, Marylebone-road, N.W.—Two Asst. Res. M.O.'s for four months at rate of £80. Also Sen. R.M.O. £100.
Queen's Hospital for Children, Hackney-road, E.—Phys. in charge of Skin Dept.
Reading, Royal Berkshire Hospital.—Hon. S.
Rochester, St. Bartholomew's Hospital.—Res. H.S. for six months. £250.
Royal Chest Hospital, City-road, E.C.—P.
Royal Eye Hospital, St. George's Circus, S.E.—Hon. Asst. S. Also Clin. Assts.
Royal Naval Medical Service.—Surg. Lieuts. 25s. per day.
St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.—Clin. Assts.
St. Mary's Hospital, W.—Director of the Dept. of General and Special Pathology, &c. £800.
St. Mary's Hospital for Women and Children, Ploislow, E.—Res. M.O., and Asst. Res. M.O. for six months at rate of £175 and £130 respectively.
Swansea General and Eye Hospital.—H.P. £175.
West London Hospital, Hammersmith-road, W.—Surg. for Dis. of Women. Dermatologist. Also Hon. Medical Radiologist.

The Chief Inspector of Factories, Home Office, London, S.W., announces the following vacant appointments: Bethnal Green, London; Aberayron, Cardigan; Coggeshall, Essex.

Births, Marriages, and Deaths.

BIRTHS.

DAGGER.—On Oct. 13th, at 14, Howard-road, Morpeth, Northumberland, the wife of R. Leslie Dagger, M.D., M.R.C.S., of a daughter.
PURVIS.—On Oct. 17th, at Strathnaver, Helensburgh, the wife of Major M. Purvis, Indian Medical Service, of a daughter.
WYNN PARRY.—On Oct. 14th, at Denison Hall, Leeds, to Mr. and Mrs. Henry Wynn Parry, a son. Grandson of Mr. and Mrs. R. H. Parry, of Glasgow, and Sir Berkeley and Lady Moynihan, Leeds.

MARRIAGES.

COLLEY—THOMAS.—On Oct. 17th, 1924, at St. Michael's, Wood Green, London, Thomas Colley, F.R.C.S., younger son of Mr. Thomas Colley and Mrs. T. Colley, of Preston, to Eleanor Mary, elder daughter of the Rev. Principal D. J. Thomas, O.B.E., M.A., J.P., and Mrs. D. J. Thomas, of the Training College, Wood Green.
HAWLEY—SANGUINETTI.—On Oct. 15th, at St. John's, Stanmore, Arthur Thomas Hawley, F.R.C.S. Edin., to Joyce Myfanwy Sanguinetti, only daughter of Mrs. Sanguinetti, of The Wych Elms, Stanmore.

DEATHS.

FOSTER.—On Oct. 13th, at Quetta, Ena Dorothy Foster, M.R.C.S., L.R.C.P.
WOOD.—On Oct. 18th, at Southernhaye, Lyme Regis, William Edward Ramsden Wood, M.D., aged 75.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

CEYLON MEDICAL DEPARTMENT.—At the closing session of the Ceylon Legislative Council on August 28th the Governor, Sir William Manning, said that the medical department of the colony had expanded very considerably during the last three years. In 1921 the expenditure was Rs.5,093,889, while in 1924 it was Rs.7,448,600. In 1921 the expenditure on medical research was Rs.600; to-day it was Rs.70,142. 1,500,000 persons have been treated for ankylostomiasis in this period. For the treatment of parangi, the Ceylonese form of yaws, nine whole-time medical officers are employed, one in each province. Ten new hospitals and 33 new dispensaries have been opened, and additions and improvements to 40 hospitals have been made. A malariologist has been appointed with a staff to assist him; sanitation has been seriously taken up, and four medical officers of health and 65 sanitary inspectors appointed. For estate medical inspection six whole-time officers have been appointed. The department has shared in the general development which has taken place during the period 1921–24, and its record of advancement is very satisfactory. Ceylon, the Governor concluded, is better supplied with hospitals and dispensaries than any other tropical colony.

Notes, Comments, and Abstracts.

MEDICINE IN A CORNER OF THE EMPIRE.

An Address Delivered at the Social Evening of the Royal Society of Medicine on Oct. 16th, 1924,

BY DR. W. T. GRENFELL, C.M.G.

I HAVE been wondering why the Royal Society of Medicine were interested in my proceedings in so far off a portion of the Empire. The only solution I could come to was that as they are prolonging life so much they are looking out for parts of the world to be developed for people to go and live in them. I was told to-day that the East is getting so tired of the West that they are going to push us back again, and that there would not be standing room in England if they were going to increase the longevity of its people. I hope, on that score, that you will feel a little increased interest in a country which was called, when I went there, "The dump-heap of the earth."

Labrador.

I hardly know what line to take in speaking to the Royal Society of Medicine. Of course, if you are face to face with concrete problems such as we have in Labrador, which take all your time and energies, you realise from the beginning that, as far as medicine and surgery go, there will be very little opportunity to discover a disease, much less a cure for it. So I have always been a kind of parasite on the profession in that way; and when we have a disease which we do not know anything about, one of us goes roaming to see if anybody else does. It is to gentlemen like yourselves and others that we have often had to come. During the 30 years I have been in Labrador we have come once or twice, with very great advantage to our people. So I assure you I am not only honoured at being asked to speak to-night, but I realise the enormous debt of gratitude we owe to these centres of civilisation, to the great advances they have freely given to the world outside, not less on this side of the water than on the other. I know that though we think sometimes of the Americans as a concrete whole, those who are over there realise that the Anglo-Saxon part of the population on the other side is closely united in sympathy and sentiment and everything else to us.

Labrador is the nearest part of the North American Continent to England. You have only to, as it were, walk straight across, and you walk into my hospital; you do not walk into the United States, nor even into Canada, you walk into a country that is maintaining the kind of community that gave England her place in the world that she occupies to-day: men who go down to the sea in ships. These schooners, as far south as Gloucester and the main Nova Scotian coast, and as far as Newfoundland, are manned by the very same type as followed Drake and Raleigh, and all the admirals down to Nelson, who fought for our liberty and freedom in sailing ships on the high seas. The men of Labrador are English seamen. That is one of the reasons why I stay there; I like the people, and I think we are giving them a chance which they never had before.

Pioneers of all races have almost always had very short-sighted visions of the capacities of countries which do not give an immediate return. We once wanted to trade Canada for a single West Indian island because Canada was never going to be any use. Most people have but the vaguest idea as to where Labrador is. The man who got nearest to it was a man I heard praying for Labrador one day, and, as people who say prayers do, giving some information to the Almighty. And he began to tell Him the boundaries of Labrador. But he got mixed up and wound up with: "God knows where that is." It is not very long ago that I spoke to a man who certainly had had opportunities to learn better, and who said he thought it was an island in the Gulf of Mexico! I am sure of this, that a section of continent with something like half a million square miles of land must, from the very fact that it is so large, have something to give back to civilisation.

When I first saw Labrador, it was from the deck of a 99-ton boat on which I had sailed across the Atlantic, and I cruised for three months between Greenland and Labrador. I had a small hospital on board, carrying six beds, and only an untrained male nurse. I did not know whom I was going to see, and I did not expect to see land. We fell in with a fleet sailing between Hudson Bay and Greenland, and I cruised with them. At the end of that time we had had about 900 patients. As the sea froze up in November and I had no means of wintering, I sailed back home.

Operating under Difficulties.

In Labrador the crassest of ignorance was causing death and suffering to a people that I often feel like taking my hat off to, because they are real men. And yet I have been able to do so little. What could you do? I have operated on the beach several times. I had some anæsthetics and so on with me, but these people did not like anæsthetics; they were like the men who, when chloroform was discovered, thought it was wrong to relieve people of pain, and so they put up with the pain. I remember to-day a woman with a very large incapacitating tumour in the leg. I offered to remove it for her, but she would not have an anæsthetic, and as I was quite alone I did not feel like doing it. But next morning she was aboard with six huge fishermen, and when I asked what they wanted, they said they had come to sit on the woman while I operated. The problems you are up against are largely those which give pleasure in the solving. If the joy of life is solving problems and feeling you have done something, then in Labrador you can have a good time. Owing to invitations of different people, and as help had been promised me, I made up my mind to go back again. I went to the London Hospital and told some of the nurses that I could not do justice to the people in any way without a nurse of some kind. The first two nurses I appealed to, though they had easy, remunerative, and sure jobs, offered to come with me, and sailed in the spring. I say that because I have offered nurses every kind of job for 40 years, and have never had them say No. I sent a nurse, some years ago, to a village 60 miles from hospital, and she was cut off from me by a break-up of the sea ice. We had a wire round the bottom of the bay, and I got a wire from her one day that a man had gone out of his mind and had ripped his bowel open. He had hyperpyrexia, and his bowels got mixed up with the hay he had in his cottage. He had picked up his bowels and walked into her house, and she wanted to know what to do. There was very little I could tell her over the wire; practically all I could say was, "Do the best you can." Six weeks later, when the boats came North, I saw a boat approaching, one of the long open trap boats which we had closed in and fitted up with a stove, and on it was the nurse and two patients. One was the man who had disembowelled himself. The nurse told me how she had tackled the case. She had some chloroform and she went to the Catholic priest. They talked about the case, and she said she had never done an operation in her life, nor had he. They agreed that if the priest would give the viaticum first, it would not matter so much. I can only say, as an illustration of the splendid class of patients I have to operate on, that when they brought the patient in, he was almost entirely cured, and he is working as a fisherman to-day.

Epidiascope Demonstration.

Dr. Grenfell then showed with the epidiascope a series of colour photographs depicting the life and customs of the people and the grandeur of the country's scenery. By means of a map he explained the relative position of the country, and said it was kept cold by the Polar current washing its shores. Little or nothing seemed to have been known when he first went there about the physiography and geology of Labrador, and he instituted a sort of symposium of knowledge which was available about it. There were no reliable charts to steer by; even those places marked on the map were not dependable. A day would come, he said, when the fiords—more beautiful than those of Norway, would prove a great attraction. The rivers were full of the most unsophisticated salmon and trout in the world. The cliffs were in some places 4000 feet high at the water's edge, and were an outcrop of the Appalachian Mountains. The valleys were filled with trees, which each year became larger and more valuable. Arrangements had been made to establish a hospital, as it was felt the people should have a place to make for in time of need. A wireless installation, one of the first in the country, was put up, and this was a great help, as the Government had three stations, 200 miles apart, whence calls from patients could be received.

Dr. Grenfell concluded by a reference to prohibition. Before this era there had been a great deal of neglect and impoverishment, especially of the children, as men would often drink away in a couple of days the profits they had made in a whole fishing expedition; hence rickets and beri-beri had been common. Matters were now in this respect very much improved. He mentioned also that the whale had proved a wealthy source of pituitary gland for the purpose of making medical extracts, and he had been instrumental in supplying a great deal of this material to Dr. Harvey Cushing and others. Whale was good eating, and especially the "small" muscles of the eye, which provided a joint the size of an average beefsteak.

"VARENECOSE" ELASTIC HOSIERY.

WE have received from Le Brasseur Surgical Manufacturing Co., Ltd., of London, Birmingham, and Paris, a sample of an elastic stocking which is constructed of a finely woven but resilient fabric giving firm support. The stocking has a good appearance and the material suggests durability.

A SERVICE OF HEALING.

A MEDICAL correspondent writes:—For three days of last week a Mission of Healing was held in the Parish Church of Frizinghall, a suburb of Bradford. The third day—on which I was present—found the church nearly full half an hour before the service began. People were being carried in on stretchers, others pushed in on bath-chairs, others helped in with one, two, or three attendants; only those with tickets applied for beforehand were admitted in the first place, though others came pleading to be admitted, and I fancy these were allowed in when the service began. Throughout the church, while waiting, was quiet and expectancy. Prayers were going up from those assembled, and well-known hymns were being played quietly by the organist. The organisation was good. Police outside the church regulated the traffic, and helped to make it easy for the sick folk to get into the church. Inside, stewards were at hand to show all comers to their seats. Ambulance workers were busy carrying, doctors and nurses were at hand to help the sick in emergency. The people came from different places of worship, many being accompanied by their ministers.

The service was opened with a short explanation from the Vicar of Frizinghall, Rev. J. H. Warner. He told how he had invited Mr. Hickson to come to his church, and what a response he had had to his offer of tickets of admission to the service. The Bishop of Bradford, Dr. Perowne, who followed, mentioned some instances of benefit received by those who had been present at the service the day before. He then led the congregation in prayer. The Missioner, Mr. J. M. Hickson, then ascended the pulpit. He is a layman of the Church of England, with the appearance of an ordinary robust business man. He has a strong voice, and speaks simply and fluently. His sermon was based on the need for more reality in religion, for more simple belief in Jesus Christ and His promises. He emphasised the fact that those receiving help from the service would only get what they were ready for, what their faith allowed them. He showed that we were weaving our own garments in our lives and actions. He explained at the outset that it was not any power of his that would heal the sick, but all power was from Jesus Christ. He said he had had missions all over the world and mentioned one in India. Mohammedans then came to be healed. He told them that he was acting in the name of Jesus Christ, and asked if they would acknowledge Him. Their answer was that Jesus Christ was called the "Healing Prophet" in their Koran. Mr. Hickson went on to say that it was no good him talking about physical healing only. It was peace in their hearts that folk needed as well as relief from affliction and ease from pain. He believed that everyone would go away at peace in their hearts if they were sincere in their prayers. Finally he said he did not see why any church should not be a healing church, if groups of those who believed it possible would meet and pray for this.

The sermon ended, Mr. Hickson asked that there should be no moving about or talking while the sick came to the altar conducted by the stewards. Mr. Hickson and the Bishop went first to those on stretchers and to those who could not walk. Mr. Hickson laid his hands on them, the Bishop gave the Church's blessing, and the patients were carried or helped out of the church. Women removed their hats and held them in their hands. All going up for blessing carried cards stating a few particulars of their illness. The rest of the congregation sat quietly or prayed; there was no emotional outburst. It was hard to see anything outside the church door on account of the crowd. The majority of patients came out as they went in, except for a look of calm on their faces. The Missioner laid no emphasis on immediate cure, but some cases have been reported. There is to be a service in the church at the end of the month, when report will be given as far as possible of the results of the mission.

SCHOOL DRESS.

IN spite of the adverse criticism periodically levelled at the modern woman's dress, it is probable that never before—at least since the simple but becoming fashion of woad went out—has it been as hygienic as at the present day. Although until recently the dress of the child of school age still retained many of the old undesirable features there are welcome signs of an improvement in this direction also. In the borough of Westminster an educational campaign has been carried on for some time by Dr. Octavia Lewin, medical officer to the Greek-street centre. At a weekly "nasal hygiene and special exercise" class a careful examination is made not only of the physical condition of each child, but also of its clothing, notes being made not only of such defects as constricted neck-bands, strings of petticoats, tightness across the chest or under the arms, but also of the character, number, and weight of the garments worn. In the case of boys the special points noted are the collars, the presence of studs pressing on the neck, tight braces and waistcoats, and tight arm-holes. Great emphasis is laid by Dr. Lewin on the necessity for allowing plenty of arm-hole room both for babies and for older children, constriction in this region hampering the respiratory muscles and encouraging stooping. All garments are cut low under the chin so that the neck is left bare above the clavicle. A particularly sensible school dress, a patent for which has been obtained, is so cut as to hang perfectly from the shoulders irrespective of adjustment; an adjustable box-pleat with lace fastening allows for growth and enables the garment to fit comfortably for from 18 months to two years. The dress is also adjustable as to length. Another hygienic device is the provision of a breast pocket with a handkerchief attached by a tab to a button sewn inside the pocket. The use of an "individual handkerchief" is rightly urged for even the youngest infants. The new ideas are catching the ear of the mothers and the coming generation will certainly benefit.

TREATMENT OF PAINFUL CRAMPS AND MUCOUS COLITIS.

To the Editor of THE LANCET.

SIR,—In reply to Dr. E. W. Dewey's inquiry regarding painful muscular cramps in rheumatoid arthritis, I have frequently found that the most effective remedy is validol, taken in doses of from 20 to 30 drops at bed-time, and repeated every hour if required. I have also found dimol, taken regularly, very useful.

In reply to "M. C.," I have found excellent results in the treatment of mucous colitis from the use of choleo-kinase. It is, of course, necessary that special diet on Combe's lines should be given; and care should be taken in the giving of aperients; my best results have been with the use of thaolaxin.

I am, Sir, yours faithfully,

Bath, Oct. 18th, 1924. WM. ARMSTRONG.

To the Editor of THE LANCET.

SIR,—May I suggest to "M. C." that he tries the effect of large enemata of normal saline in mucous colitis. The salt solution, at a temperature of 102° F., should be slowly run in from a douche-can holding two quarts and raised 18 in. above the level of the anus, while the patient is lying either on his face or his back, the former being, I think, the more convenient position. The tube should just pass the internal sphincter. If there is any pain after a few ounces of the solution have been given, this is probably due to a spasm of the intestine, and if the rubber tube be pinched so as to stop the flow for a few minutes the pain will pass off and the injection can be continued till the patient has had as much as he can stand, which will probably be nearly two quarts. The best time for the treatment, which should be given daily, is in the morning, if possible after the bowels have acted. As any intelligent patient can give himself the injections, the assistance of a nurse is not required. Aperients should be avoided, as they may counteract the soothing effect of the saline. This method of giving high enemata was recently described in the *Medical Review* by two American radiologists, who had watched on the screen bismuth injections thus administered pass into the ascending colon.

I am, Sir, yours faithfully,

Llangollen, Oct. 20th, 1924. MAY RATHBONE.

THE "BROWNE" STERILISER CONTROL TUBE.

EFFECTIVE sterilisation by steam depends both upon the steriliser and the person using it. By the adoption of the "Browne" Steriliser Control Tube (Albert Browne, Ltd., Chancery-street, Leicester) the degree of heat which has penetrated to the innermost parts of the contents may be seen at a glance. The device consists of a small, stout sealed glass tube containing a liquid which is unaltered at 100° C. (212° F.), but which after being subjected to 115° C. (240° F.) for ten minutes becomes straw coloured. After 20 minutes at the same temperature it becomes light brown, and after 30 minutes or more a deep brown. Tubes placed in a batch of dressings or other material to be sterilised will indicate by their colour when taken from the steriliser the duration and the intensity of the heat to which the contents have been subjected. The tubes can only be used once.

Stethoscope.—In reply to an inquiry for a place on the Riviera suitable for a case of rheumatoid arthritis (THE LANCET, Sept. 13th, 1924, p. 582), Dr. H. M. Mackenzie writes from Santa Margherita Ligure, Italy, to say that the place is sheltered from cold winds, the winter climate is pleasant, November being the only rainy month. Patients report that they sleep better, and are more free from rheumatic pains. The cost of living in an hotel is £3 to £3 10s. per week, including all taxes; a pension might be somewhat cheaper. There is pleasant society, not too gay. Rooms should be booked in advance, as the hotels are likely to be full this winter.